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Textile World

A McGRAW-HILL PUBLICATION

JULY, 1938

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Textile World

JULY, 1938

DOUGLAS G. WOOLF, *Editor*

A Word About MEN

OVERPRODUCTION. Inventories. Long-draft spinning. Automatic looms. . . . These, and more of the same ilk, are the things that engage too much of the attention of the textile industry.

How about the *men* who are responsible for production, for inventory control, for operation of new types of spinning equipment or looms?

Not men in the abstract. Not men in the sense that we refer to them when we speak of industrial relations. But men, individually, who make up the key-group in the textile industry: John Smith, loomfixer; Tom Jones, boss-carder; Jack Brown, color-mixer; Jake Rumsey, assistant superintendent; Luther Willis, designer; Jim Potter, superintendent —yes, and Russell Black, president.

When we worry about the future of the textile industry, don't we worry too much about the statistics of the industry—and about the fate of individual companies—and not enough about the fate of men?

This question *is* a question, not a criticism.

We wish that every reader of TEXTILE WORLD could have been back of our desk during the last ten years when men who had been big shots, men who wanted to be big shots, men who never could be big shots, and men who just wanted jobs, came to us in various stages of humility and arrogance and hopefulness and despair.

These must still be counted among the *men* who make up the textile industry. These, and hundreds of others like them, as well as thousands who still have jobs. What shall we do about these men?

That question isn't fully answerable. But it must be approached.

•

An approach was made at the annual meeting of the Southern Textile Association last month. That sort of meeting, of which the S. T. A. has had others in past years, is of even greater importance, in our opinion, than the technical forums held by that association, vital as they are.

But the S. T. A. and similar organizations can only formulate broad policies. The actual execution is up to the individual mills. And, we are frank to admit, there is still a great deal more to be done by the average company.

First, as to the key men who still have jobs. Actually, the things that can be done to make these men vital forces, rather than just cogs in a machine, are very simple.

The most important, we believe, is to give them a feeling of responsibility. It is perfectly amazing to go through so many organizations and find that, after paying their key-men reasonably good salaries to get the work out, the managements will do all in their power to restrict and inhibit the course of action of those men. If there is one thing which makes a real man do a better job, it is the feeling that he is entrusted with the authority to go ahead and do that job on his own.

The next is knowledge of the company and its financial and technical progress. The tendency to keep those facts "secret" from the very men who need them most is another amazing fact.

Another vital thing to be done is the establishment of an educational machinery through which key-men are encouraged to advance in their own lines of work.

These are three very simple formulae—and not at all original with us. But it is surprising how many times they are overlooked. Probably, the natural tendency is to look for some complicated system and to disregard the easy, but effective, methods right at hand.

•

As for the men who haven't jobs, but want them, this is one of the most distressing problems the industry faces. A great wealth of human material is waiting to be tapped. And yet many of those men who come to us tell us either that they have been let go to make room for cheaper men—or else that they just haven't been able to get even a sympathetic audience with textile manufacturers.

If there is one person we are willing to spend time on, it's a man looking for a job. And that willingness isn't based on emotion or sentiment. It's based on the knowledge that the only way this industry can ever go places is to develop the men it has in it, and constantly to strive for a more stabilized situation, in order that new and promising men may be attracted to it.

So, we suggest, let's give a little thought to *men*.

THE EDITOR SAYS

Recession Receding?

ALL of a sudden, last month, the business sky brightened. Actually, nothing important had happened in business. But the stock market had advanced for a week—and, deny it or not, this country still is very much influenced by that one factor.

Personally, since we belong to the school that has preached belief in a recovery movement in the late summer or early fall, we are not alarmed by the speculative implications of the above fact. We won't get panicky if the stock market rise peters out before these words appear in print, or if there is another wave of pessimism by that time.

We firmly believe that the major recovery movement which started in 1936 has not yet been completed; that the interruption last fall was due to over-extension of production; that the resulting excessive inventories are being gradually reduced; and that business is about ready to move forward again.

In textiles specifically the different tone last month, particularly in cotton goods, was most welcome.

We may be a fool optimist—but we honestly believe the recession is receding. (As a matter of fact, it has been a depression, but that didn't lend itself to a play on words.)

The Wage-Hour Law

WITH the weather getting hotter, there's one consolation: One thing we *don't* have to argue about any more is whether or not there should be wage-hour legislation. There *is* wage-hour legislation —whether we like it or not. Our suggestion is that the industry take it and *like* it.

The proper sort of a wage-hour law, properly administered, should help the ethical manufacturer against the type which knows no other form of competition than price chiseling—which of course means, in the last analysis, wage-chiseling.

As for the new law, it is undoubtedly the best one that could have been gotten out of that peculiar process called legislation. It has some faults, but it has many good points.

The real answer to its efficacy, of course, is going to be found in its administration. The type of individual selected to be administrator, the type of men selected in turn on the industry committees—and the attitude engendered within those committees—these are the variables.

That is why we advise the industry to take the law and *like* it. It can go through the whole process with a chip on its shoulder, and get merely a good kick in the pants for its pains. *Or*, it can go about it in a cooperative way, try to shape the activities of the industry committees constructively, and get not only a minimum of harm, but some really positive good.

That's for the industry to decide.

An example of the right attitude to take at the start was that reflected in the resolution adopted by the National Association of Wool Manufacturers. (Page 31.) We are confident that approach will be shared by the entire textile industry.

Research: Plain or Fancy

F. R. S. GOODALL, chairman of the Diplomas Committee of the Textile Institute, Manchester, Eng., made a real contribution to textile thinking in this country by his response to one of the requests made of him during his visit here last month.

Asked to tell about the operation of the British Spindles Act, designed to bring about liquidation of excess spindleage, he devoted only a small part of his address to that subject. His reason was that, after all, such an attempt is merely getting after the symptoms rather than trying to cure the disease.

He is 100% right. No matter how rapidly the industry goes about scrapping equipment, it can never keep up with itself because simultaneously the remaining equipment can be modernized and made to produce as much as, or more, than had been the capacity before the liquidation.

There is only one real way to solve the textile problem—and that is by increasing the market for textiles. And one of the chief ways to bring that about is through research —both technical and economic. Research of a really fundamental nature.

There is, or should be, no quarrel between those who believe in that sort of research and those who are ardent supporters of so-called practical research. Both are indispensable but they are quite distinct. And, incidentally, some of the most fundamental researches in other industries have proved to be extremely "practical" — if dollars-and-cents results may be used as a gauge for practicality.

Mr. Goodall and Frank Nasmith, president of the Textile Institute, the other delegate, did a real service to the industry in this country when they focused attention upon this all-important subject. We hope that a renewed assault upon the problem of developing a real research program here will be the result, and that the many interested organizations—the Textile Foundation, the U. S. Institute for Textile Research, the American Association of Textile Chemists and Colorists, the Throwsters Research Institute, the U. S. Bureau of Standards, and others—will start a new cooperative effort toward that end.

This IS Cooperation

ONE of the best examples of cooperation which the textile industry has ever offered is that which has been responsible for the report on Vertical Integration in the Textile Industries, reviewed on page 41 in this issue. Into this result went the initiative of the U. S. Institute for Textile Research, whose Committee on Economic Research first recommended the study; the financial support of the Textile Foundation; the active work of the Industrial Research Department of the Wharton School of Commerce and Finance, University of Pennsylvania; the assistance of the heads of all the leading textile associations, and the cooperation of hundreds of textile concerns which supplied the necessary information.

The interlocking set-up by which all these groups worked together toward a common end may well be emulated in the planning of future research projects in the industry.

Meanwhile, we recommend that every thoughtful person in the textile industry send $1.50 to the Wharton School of Commerce and Finance, University of Pennsylvania, Philadelphia, for a copy of the vertical integration report, and that this be made MUST reading, even though summer is supposed to be the period for light fiction. The report definitely is *not* that, but it has possibilities of real returns for the reader.

NEWS OF THE MONTH

Textiles in Another Quick-Change Act

The textile industry has staged another one of its dramatic shifts in both psychology and activity. Sunk deep in the mire of despair just one month ago, it now—at this writing—acts as if it is going places.

Those who have been predicting that recovery would "sneak up" on the industry have been trying to eat those words. The sneak turned out to be a pounce.

Let it be emphasized right here, however, that even the hardiest souls among the prophets are not yet talking aloud about this improvement as permanent. Many believe it is, but the scars of the prophecies of the last nine months are still fresh. About the most daring statement you can get right now is a well-hedged hope that the fall will really be an active one in textiles.

Possibly one reason for the timidity is the fact that the textile improvement last month was simultaneous with the stock-market rise. On the other hand, more mature consideration leads many to believe that neither was a purely speculative trend but rather that the extremes to which deflationary moves had been carried, at last won recognition. Gradual liquidation of inventories had been taking place, and the red light changed to the caution light. If there is another month of this improved sentiment and business, there will be a definite shift to the green light.

What Congress Did to Industry

(*From* TEXTILE WORLD'S *Washington Office*)

Major legislation by the third New Deal Congress affecting industry is summarized below:

Bills that became law:

Wages-hours—Last and hardest-fought New Deal objective; brings the bulk of American labor under Federal control for the first time; aims at 40-c. 40-hour standard within seven years. (*See page 35.*)

Crop control—Pope-McGill Act authorizes soil conservation and price parity payments; sets up marketing quotas applicable on referendum of wheat, corn, cotton, tobacco and rice growers; authorizes crop insurance on wheat; provides for cotton products laboratory in the South.

Taxes—Modifies undistributed profits tax on corporations; sets up flat capital gains taxation; became law without President's signature.

RFC loans to business—Glass amendment liberalizes terms to borderline credit risks.

Recovery—Three to four billion dollars for direct relief, work relief, public works, housing, farm price parity payments, rural electrification.

Bills that failed:

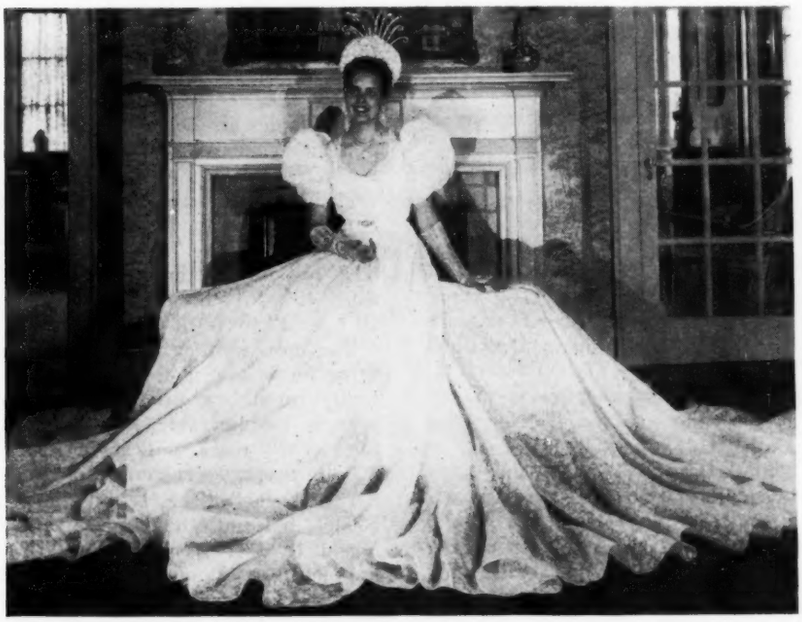
Processing taxes—A provision in the crop control bill would have taxed processors of major crops for revenue to pay farm benefits.

Walsh-Healey amendment—Would have expanded Labor Department's wage and other control on public contracts from $10,000 limit down to $2,000 and blacklisted companies that violated NLRB rulings.

Federal licensing—Would have created a dragnet to bring all big business to Government control over fiscal, labor, and monopoly practices.

War profiteering—Would have frozen prices as of the day of declaration of war.

Schwartz-Martin—Would have set up branding procedure for wool and part-wool yarns, cloth, garments.



COTTON QUEEN—The Queen of the Cotton Ball held in Gastonia, N. C., during National Cotton Week was Miss Maude Kelly Smyre, daughter of Fred L. Smyre, president of A. M. Smyre Mfg. Co., and granddaughter of A. M. Smyre, pioneer textile manufacturer of Gaston County. The dress she wore, illustrated above, was designed by Leonora Ormsby, of New York, and had 35 yds. of shadow-print organdy in its skirt. . . . The King of the Cotton Ball was W. A. Julian, well-known cotton man.

Wool Industry Holds Labor Standards

Directors of the National Association of Wool Manufacturers meeting in New York June 29 unanimously adopted a resolution urging the industry to continue to observe the wage and hour standards set by the NRA Code for the Wool-Textile Industry and subsequently maintained by the Rules of Business Procedure voluntarily adopted following invalidation of National Industrial Recovery Act. These standards provide a minimum hourly wage of 35¢ in the North and 32½¢ in the South, or $14.00 and $13.00 respectively for 40-hour week; maximum work week for productive employees is 40 hours. It is expected that this reaffirmation will result in maintenance of wage and hour standards well above the statutory limits applying upon the effective date of the "Fair Labor Standards Act of 1938."

Japan Cotton Decree

By a dramatic action, Japan put into effect June 29 a decree prohibiting imports of cotton except for military purposes or for the manufacture of goods for export. In other words no raw cotton can be imported for domestic manufacture.

When questioned on the significance

of this section, so far as this country is concerned, Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, said he did not believe it would materially affect export of cotton goods from Japan in the near future. However he pointed out that it was entirely possible that before the end of the year the yen might be devalued and in that case the Japanese export situation would be strengthened.

The really serious element in the new decree, pointed out Dr. Murchison, is that it means a further loss in the market for American cotton since it means prohibition of cotton consumption in Japan for domestic use. He estimated that 40% of the cotton consumed in Japan has been going into such use and that consequently that quantity represents a total loss to American agriculture.

S.C. Commissioner Calls Wage Meeting

South Carolina cotton manufacturers were asked last month by Commissioner of Labor John W. Nates to meet at Spartanburg and consider the problem of recent wage reductions in various branches of the industry. However, the meeting was postponed when a committee of manufacturers assured the commissioner "that they would do all within their power to prevent additional wage cuts where such cuts are now in effect or where no reductions have been effective."

A conference of labor commissioners of eight southeastern States was called for July 8 by Mr. Nates, in accordance with a suggestion made by W. P. Jacobs, secretary of Cotton Mfrs. Assn. of S. C., that "it would be a most constructive step if you, in advance of a conference with South Carolina mills, will take the leadership in the solution of this problem by calling into conference the commissioners of labor of other textile States."

Cotton Textiles See Daylight Again

The cotton-textile market ran true to form last month. At the end of the third week the outlook was the blackest since 1932, according to key manufacturers contacted by TEXTILE WORLD. Adverse factors were seven weeks production of print cloths on hand, rising price of cotton, falling price of goods, wage cuts in the South —in short, there was no hope for the immediate future.

Yet exactly one week later these same manufacturers were beaming with joy at what had taken place. Close to 100,000,000 yd. of print cloth and great quantities of other constructions had been sold; at low prices, it was true, but still they had moved. And in doing so the print cloths had gained from 3/8 to 1/2¢ in value. Over 300,000 pieces of fine goods were sold, but the gains in price were only minor. Consensus is that this was the beginning of the long-awaited upturn, and that it will continue with possible interruptions into the fall.

Activity is expected to be more stable than usual because of the elimination of the third shift on July 1 in 97½% of print cloth mills. Another helpful factor, temporary or not, is the Government spending which is already beginning to be felt in the textile belt.

Cotton Shrinkage Rules Set by FTC

Trade practice rules covering shrinkage of woven cotton yard-goods were promulgated June 30 by the Federal Trade Commission. The rules as issued differ little from those proposed by Dr. Leo Gitelson, of the New York Board of Trade, at a trade practice conference held March 9, 1937, in New York. Job finishers offered considerable opposition to the proposed rules; and at a later conference held in Washington, D. C., Jan. 27 of this year, the National Association of Finishers of Textile Fabrics proposed a substitute set. FTC apparently gave little attention to the finishers' suggestions, and the latter are critical of the rules as promulgated on the ground that they are not practical.

D-13 Meets in Atlantic City

Progress in wool standardization and the need for further study of the properties of the wool fiber were discussed by G. E. Hopkins, technical director, Bigelow-Sanford Carpet Co., Inc., at the annual meeting of the American Society for Testing Materials, held June 27 to July 1, in Atlantic City, N. J. At the same session, H. J. Ball, chairman of Committee D-13 on Textile Materials, submitted a report summarizing the work accomplished, now under way, and under consideration by that committee.

Representing Committee D-13, Professor Ball presented the following new tentative standards for publication by the society: method of test for fastness of colored textile fabrics to light; methods of testing and tolerances for spun rayon yarns and threads; methods of testing and tolerances for yarns spun from wool mixed with fibers other than wool; specifications for single-ply bleached cotton broadcloth; specifications for bleached wide cotton sheeting, and specifications for terry (Turkish) toweling.

Greenville Show Plans

With nine months to go before the Southern Textile Exposition at Greenville, S. C.—April 3-8, 1939—more than 90% of the space has been spoken for. Most of the nationally-known manufacturers of textile machinery, accessories and supplies have signed contracts. The management has acquired the lot to the east of the main building and the temporary annex will be enlarged.

After corresponding with several hundred exhibitors, the management has fixed the opening and closing hours as follows: Monday, 11 a. m. to 9 p. m.; Tuesday to Friday inclusive, 9.30 a. m. to 9 p. m.; Saturday, 9 a. m. to 4 p. m.

Delta Cotton Outlook

With the Delta cotton acreage cut from 1,418,000 to 954,630 under the Government farm program, long staple cotton planters have changed their planting program with an eye to greater money yield per acre this fall. Since the premium for 1 1/8" and 1 3/32" staple ranged only slightly higher than 1/16" this past season, those staples are being sacrificed and a planting survey shows that on the reduced acreage the harvest is expected to yield more 1¼" and longer than last year; about the same quantity amount of 1 5/16" and 1 7/32"; fully 35% less of 1 1/8" and 1 3/32"; with at least 40% of the total Delta crop DPL or 1" to 1/16".

The crop in the Delta is at least three weeks late, and the stands are spotty for the growing season this year is incomparable with those of the last two years. With an estimated 300 lb. average per acre of lint cotton the Delta will be lucky to harvest 360,000 bales of long staple. Examining all the elements which enter into the picture, users of long staples may expect to pay an unusually high premium for their material this fall. Raw cotton shippers, anticipating a field-day demand for certain staples, are avoiding future commitments until the season is well under way.

SOUTHERN WELFARE IS PRIMARILY DEPENDENT ON COTTON
NATIONAL COTTON WEEK
HELP YOURSELF BY BUYING YOUR STAPLE FOODSTUFFS IN COTTON BAGS
DISPLAY OF ARTICLES MADE FROM COTTON BAGS

EVIDENCE OF COOPERATION—A feature which lent especial effectiveness to "Cotton Week" this year was the cooperation of non-textile distributor groups, such as grocery chains, drug stores, etc. Stimulated by the Cotton Consumption Council, the promotion, under auspices of the Cotton Textile Institute, succeeded in focussing attention on various lines of cotton merchandise not usually included. Above window display at Rogers Stores Co., grocers, Atlanta, Ga., a unit of Southern Grocery Stores, is typical of displays used in several states in the Southeast.

Distinction Between Wools Opposed

A reiteration of the wool manufacturing industry's opposition to proposals to label virgin and reprocessed wool content of fabrics was presented by Arthur Besse, president, National Association of Wool Manufacturers, in a letter to Congressman C. F. Lea following a news release by the latter which focused the Schwartz-Martin, or wool labeling, bill on that old-time battle ground.

Since laboratory experts have been unable to distinguish between reprocessed and virgin wool, Mr. Besse wrote to Rep. Lea, there can be no possible advantage in making the distinction for the consumer; and he further pointed out that only four wool textile manufacturers have advocated such a distinction.

The bill, though favorably reported by the House committee was not brought to the floor because of adjournment of Congress and will have to be reintroduced next session.

Dyers and Union Disagreement

Owners of silk and rayon finishing plants in the Paterson, N. J., district and union officials are in sharp disagreement over the terms of a contract to replace the existing one, which expires Sept. 1. The employers and the Federation of Dyers, Finishers, Printers, and Bleachers, have each proposed a new contract covering right to hire and fire, division of work, work load, and other basic terms, exclusive of duration of contract and wage rates. The two proposals differ widely in several respects, and conferences between employers and union representatives have failed thus far to result in a compromise.

U. S. Dye Production Up in 1937

Domestic output of synthetic dyes in 1937 totaled 122,208,000 lb., an increase of 2.2% over 1936, according to preliminary figures issued by the U. S. Tariff Commission. Sales showed a 1% gain, totaling 118,009,673 lb., valued at $64,530,892. Largest production gain (13%) was made by new and unclassified colors. Production of textile chemicals by dye manufacturers was 2,976,622 lb.; sales, 2,848,664 lb., valued at $747,150.

Silk Forum July 21

The second annual Fashion and Silk Merchandising Forum of the International Silk Guild will be held, July 21, at the Waldorf-Astoria Hotel, New York. Jay D. Runkle, chairman of the very successful event last summer, will again preside over an all-day and evening program. R. D. Jenkins, Guild vice-president, says the keynote will be: "How retailers can buy and sell quality fabrics at a profit". The Guild also announced that its annual Silk Parade, a coast-to-coast promotional event, would be held Sept. 19-24, featured by a contest with cash prizes.

World Textile Pact

President Roosevelt transmitted last month to the Senate a draft convention concerning reduction of hours of work in the textile industry of the world adopted by the 23rd session of the International Labor Conference held at Geneva last year. He pointed out that for the most part, American labor standards are superior to those of the other interested countries.

WPA Buys Clothing

Among the WPA purchases of surplus merchandise, the buying of $10,000,000 worth of men's clothing is slated for distribution to the needy. Proffers of goods were received July 6 and 7 and allotments of contracts will be made by middle of month.

World Management Congress

For the first time, the International Management Congress is to be held in the United States. The dates are Sept. 19–23, this year, and the place Washington, D. C. This is the seventh congress of its kind. It comes at a time when American industrial management literally is "on the spot."

Predicts Sales Gain

Substantial sales increases for Pequot sheets during the next six months were predicted at the annual sales meeting of Pequot Mills held June 9-10 at Salem, Mass. R. C. Dick, treasurer, reported that the mills have operated on a full-time basis during the last two years.

Labor Institute

The American Federation of Hosiery Workers of Tennessee, Alabama and Georgia, are planning a "hosiery institute" educational event to be held at Highlander Folk School, labor institution, at Monteagle, Tenn., Aug. 27 and 28.

Rayon Yarn Picks Up

End-June brought a perceptible improvement in rayon market tone, and producers said buyer attitude was more confident. After weeks of sluggishness, small orders were fairly numerous, especially for the 150 viscose yarn; weavers were pushing producers for early delivery. Spun rayon continued in moderate demand; the two-week shutdown of the big Parkersburg, W. Va., plant of the American Viscose Corp., was believed to

have tightened the supply situation somewhat; however, buyers had no difficulty in getting spun rayon.

Carpet Wages

The Bigelow-Sanford Carpet Co.'s strike resulting from 10% wage reduction instituted by the company on May 9 was put into the hands of an impartial arbitrator on June 27.

It is said that CIO is making a determined effort to maintain wage levels in the carpet and rug industry. The mills on their side have been losing money heavily and believe their labor should take a share of this burden.

Tops and Wool

In harmony with the rise in commodity and security values during the week beginning June 20, wool tops advanced. New York spots went from 75½c on June 17 to 79c on June 25. It was the sharpest rise in one week for four months. Volume also increased, running to 3,360,000 lb. on the N. Y. exchange, said to be larger than in any other week.

Silk Market Rises

Increased demand from consuming industries brought appreciable strengthening of raw silk and market looked for continued firmness. Crack double extra 13/15 white 78% rose from $1.51½ on June 1 to $1.75 on July 5. This rise, plus increased demand brought a sharp advance in both silk and rayon fabrics with buyers showing keen interest.

Hosiery Sales Jump

Hosiery shipments in May were 3.5% over the same month last year, the National Association of Hosiery Manufacturers reports. The chief gain was in men's half-hose with 9.2%, and that division was closely followed by women's full-fashioned with 8.8%. May 1938 sales totalled 10,096,027 doz. pr. against 9,758,687 in May 1937.

Wool Goods Spotty

Wool goods business has been spotty but sellers detected better sentiment at the close of June after the stock market advance. Men's wear buyers are taking fancies chiefly but at a low rate. Women's wear trade was fairly brisk with special interest in boucles. Doubt is expressed of any real upturn in these markets till Labor Day.

Unfilled orders for men's wear were estimated at 15,000,000 yd. against 10,000,000 at end of first quarter. Unfilled for women's wear were set at 8,000,000 against 4,000,000 at end of first quarter.

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Fall Carpet Openings

Fall openings of rugs and carpets took place in the week of July 5. Manufacturers were prepared to hold prices fairly firm since firmer raw materials and large losses for first half of year give small incentive for further sacrifice. They had the benefit of the better turn of business in June, and despite wool's upturn it was estimated that prices were 2½ to 7% lower than the spring opening levels of six months ago.

Knit Goods Stronger

All three knit goods branches improved their position during June and current month outlook was more optimistic. Hosiery fall lines opened with no decline in prices, and some firms were forecasting an August advance; winter underwear call was considerably better, but summer lines continued light. Call for men's trunks of elastic textile yarn rose.

This and That

Chemists' Outing — Two days of golf and other entertainment are promised to members of the South-Central Section, A.A.T.C.C. Date: Aug. 5 and 6; place, Lookout Mountain Hotel, Chattanooga, Tenn.

Labels for Consumer—William Whitman Co., for the Arlington Mills, has prepared three labels for use on piece goods and ready-to-wear in conjunction with its crepes, gabardines and flannels stating that each is 100% wool, fast to dry cleaning, etc.

Pulp from Pine at Half the Cost—Wood pulp suitable for making rayon can be produced from southern pine and gum trees for $35.22 a ton, according to recent statement by Dr. Charles H. Herty; spruce pulp used now costs more than double that.

Rayon Tire Cord Made from Cotton—Recently announced by United States Rubber Products, Inc., is a new truck tire, the U. S. Raymaster, containing cords of rayon produced from cotton, rather than from wood pulp; new cord is said to retain an unusual percentage of its strength at high road temperatures.

Wage-Hour Law

Passes buck on differentials to Administrator —Industries can get limit after 120 days

By BLAINE STUBBLEFIELD
Washington Correspondent, TEXTILE WORLD

AFTER two years of conflict Congress dispaired of writing a specific law of wages and hours, and enacted a broad framework on which a definite statute is yet to be built. Further development of the law will come out of the successes and failures of the new Division of Wages and Hours in the Labor Department.

Regional differentials was and is the most vital of the many wage-hour issues. The South's determined stand for its "natural advantages" is a matter of lengthy record. It was that problem which finally stumped the Senate-House conference committee. Acceding to the Administration's demand for a law, and afraid to face their New Deal home folks empty handed, the committee reported the present law. But to report any bill at all, it was compelled by the threat of filibuster to leave the differential battle to the Administrator and the industrial committees. Those committees will get plenty of ready-made recommendations such as Roosevelt's National Emergency Council is giving now, and other groups will follow with more.

Summing up competent opinion here, one must consider seriously the possibility that the textile industries will be used as a proving ground on which to test the Administration's labor standards guns and especially the arbitrary differential provisions of the law.

Again, as during the early days of NRA, the Government is looking for a good bell-wether to lead other industries over the bridge toward its objectives. The textile industry is well qualified, as Washington sees it, to so serve. It is spread over the North and the South. It's made up of many units. The Administration still remembers the industry's alert answer to its NRA bugle call.

A Fallacy Exploded

Possibility that flexible wage provisions of the law will be applied to the textile industry immediately has not impressed some employers. They assume that only the 25-c. minimum wage and the 44-hour maximum week can be applied this year; and the 30-c. 42-hour program next year; then the 30-c. 40-hour program for five more years. This is emphatically not true. The law says that to reach the universal 40-c. wage "as rapidly as economically feasible without substantially curtailing employment," the Administrator shall convene the committees from time to time to recommend wage rates. To put the fact bluntly, the Administrator can slap the 40-c. wage on the industry whenever desired. If the first committee doesn't recommend it, the Administrator can appoint another, and another, till one does.

The question of regional wage-rate differentials which the Senate-House committee passed to the Administration for solution, remains vague, no matter how carefully one reads the law. Nowhere does the text specifically authorize variation of wages geographically. But when those who did the job explain their intention, it's clear enough. They provided in the law for "classifications" for wage-fixing purposes. Industries and occupations can be "classified" by size of town; they can be classified on a mill town basis; they can be classified on living cost basis; on combinations of bases—except in no case shall wage rates be set solely on a regional basis. This classification provision could be stretched to permit a variation between two plants across the street from each other. The South won its fight for wage variations. Attempts to remove this flexibility by amendment will be made.

A problem nearly as tough as classifications will be that of exemptions. The law attempts to be specific in exempting executives, retail and service workers in intra-State commerce, seamen, airline employees, fishermen, farm workers, learners and incompetents, some publishing employees, street and highway transport workers in perishable commodities. This attempt at detail will bring scores of industries applying for exemption on ground they are seasonal, temporary or emergency, and arbitrary decisions will be inevitable.

Any person aggrieved by an order of the Administrator issued under Section 8 may obtain a review of the order in circuit Court of Appeals. Note that Section 8 covers wage orders only, not hours. Hours provisions are statutory and cannot be altered except when Administrator determines employment is seasonal.

Major Provisions of Wage Hour Law

1. Applies to all employees in interstate commerce except those specifically exempted by law; 120 days after date of signature.

2. Requires employers to pay minimum 25¢ the first year, 30¢ next six years and 40¢ thereafter.

3. Requires employers to observe maximum week of 44 hours the first year, 42 hours the second year, and 40 hours thereafter.

4. But at any time after effective date of law, the Administrator, having secured a recommendation from an industrial committee, can order wages as high as 40¢, and hours as low as 40.

5. Permits all employees of firms to work longer than specified hours on payment of time-and-a-half.

6. But employers under agreements with NLRB-recognized unions may disregard the time-and-a-half provision if they stay within 2,000 hours a year per worker. (CIO approves this; AFL does not.)

7. Prohibits employment of children under 16, and persons between 16 and 18 in hazardous or debilitating work.

8. Prohibits shipment in interstate commerce of goods produced in violation of the law.

9. Creates a Wage and Hour Division in the Labor Department, under direction of an Administrator who can act only on recommendations by committees (of labor, employer, and public representatives) from each industry. Administrator will be appointed by President, confirmed by Senate, for indefinite term. Appointee will be independent of the Secretary of Labor.

10. Appeals from orders of the Administrator may be taken to circuit courts of appeal, whose decisions are reviewable by the Supreme Court upon certiorari.

Industrial Relations Program

Feature of Southern Textile Association convention at Blowing Rock

The Blowing Rock convention was one of the most successful annual meetings the Southern Textile Association has ever held. Over 275 persons were registered, with mill men distinctly in the majority. During the year over 2,500 operating executives attended fourteen divisional meetings, three of which were entirely new divisions and three reorganizations. Such growing interest is a distinct tribute to President Ed Holt and the other leaders of the association.

L. J. Rushworth, of Danville, Va., the new president of S.T.A.

THE rapidly growing importance of industrial relations in the life of operating executives of the cotton-textile industry was dramatically emphasized at the annual convention of the Southern Textile Association, held June 17 and 18 at Mayview Manor, Blowing Rock, N. C. In fact, this theme completely overshadowed technical phases in the minds of members, as evidenced by the fact that four of the five guest speakers discussed industrial relations. The reason for this trend of thought was aptly summed up by E. M. Holt, president of the association, in his address, by the following remark: "A few years ago the relationship between operating executives and employees concerned only that department, or at most, only that company. Today, the manner in which an individual superintendent or overseer deals with an employee is of national importance."

The foregoing statement summarizes the first of many vital problems facing the industry, according to Mr. Holt. The second came about "because of guessing at wage rates and work loads, some plants now find themselves out of competitive position, which leads me to say that I believe it is more necessary than ever before that a manufacturing concern *know* that its wage structure is fair and comparable." His third point, previously stressed at a divisional meeting, was to the effect that he believes it absolutely necessary "that an employee be made to understand what is being done, that his interest and effort in the project be solicited, that he be made to feel that he is a part of the project, and that he is a partner with his boss and his company in trying to achieve some particular result."

President Holt also made the constructive suggestion that the S.T.A. include at divisional meetings discussions of problems relating to conditions of employment and similar subjects.

The subject of industrial relations

SIDELIGHTS OF THE MEETING

• Wade Denning, superintendent of Wiscassett Mills, Albemarle, N. C., must have had his rabbit foot along. All he did was win the second low gross golf prize with a neat 73 and then walk into the banquet room where he drew the attendance prize. Average so far 1,000%.

• And what about the lady whom President Holt delegated to draw lucky numbers from a hat? The first one she drew was her own! In fact, the ladies had their day at Blowing Rock, one winning the setback tournament prize—a box of cigars.

• At a late hour our roving reporter discovered Frank Lockman, superintendent of Monarch Mills, Lockhart, S. C., still struggling with a slot machine in the lobby. First reports were that his night's work had resulted in only seven quarters, but later we learned the take was considerably better.

• The next S.T.A. convention may be held at Boone, N. C., home of the Appalachian State Teacher's College, if the vote of the younger fellows (under 90) means anything. It seems that the girls from the college who came over for the various social occasions led some of the lads a merry chase.

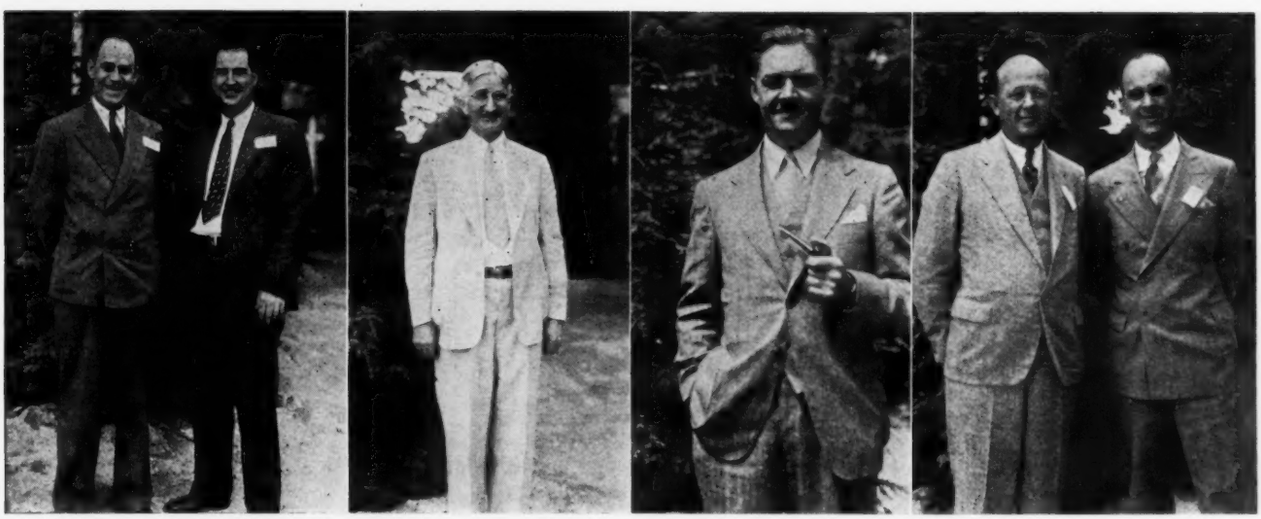
• Golf prizes for the Associate Members Division were awarded as follows: Bill Uhler, low gross; Thomas Mott, second low gross; Channing Brown, low net; Jim Henderson, second low net; H. R. Brock, consolation.

• Low gross golf prize was won by W. H. Miley, one of the Erwin Cotton Mills Co. superintendents. Another one of the Erwin lads, P. B. Parks, took the second low net. Low net was won by none other than W. M. McLaurine, of A.C.M.A. Frank Dennis was high gross winner.

• Wending their weary ways back from Boone in the cold gray dawn, several members of the convention thought something was wrong with their eyes when they saw R. Brice in the lobby and W. Brice a few minutes later on the third floor. They are Draper Corp.'s twins from Spartanburg.

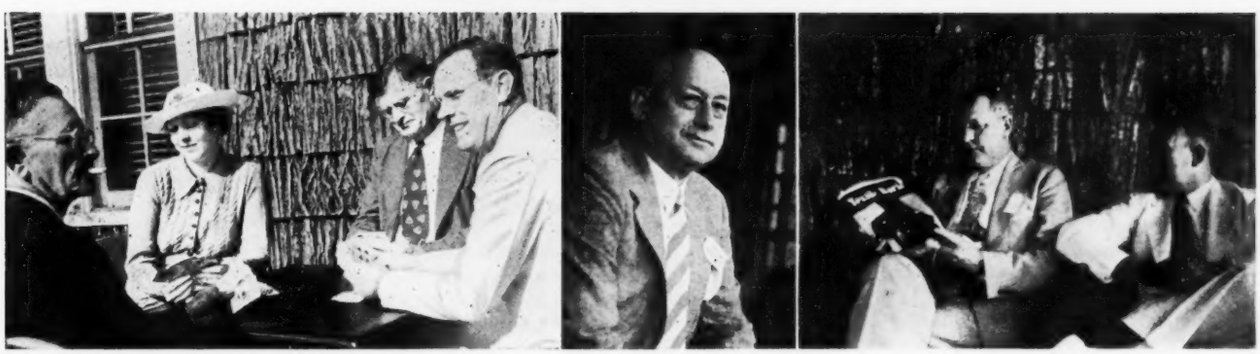
• "Sandy" Campbell, the cotton expert from Washington who spoke Saturday, and Bob Stutts, superintendent of two of the Woodside plants, must have had a fine reunion. They are old pals and for several years worked together in the Government spinning lab at Clemson. Both are making names for themselves in their respective fields.

• Two blankets felt mighty good at Blowing Rock when one could find time to sleep.



(Left to right)—Frank Lockman, superintendent of Monarch Mills, Lockhart, S. C., and Robt. Stutts, superintendent of Fountain Inn and Simpsonville plants of Woodside Cotton Mills Co.; C. S. Tatum, secretary and manager of Pilot Mills Co., Raleigh, N. C.; M. E. Campbell, senior cotton technologist, U. S. Department of Agriculture, one of the speakers; W. H. Miley, Jr., superintendent, of No. 2 Mill, Erwin Cotton Mills Co. and P. B. Parks, Jr., superintendent of No. 5 Mill, ErwinCotton Mills Co. The former won the low gross golf prize; the latter was elected chairman of the board of government

Howard Hart, of Greenwood Cotton Mills, hits a long one. L. S. Cannon, Rosemary Mfg. Co., Roanoke Rapids, N. C., Mrs. Otto Pratt, Rutherfordton, N. C., Clarence Thomason, Ashworth Bros., Charlotte, N. C., and Dick Osteen, Greenville, S. C., playing in the set-back tournament. Mrs. Pratt and Mr. Osteen (partners) won the first prize. Dave O'Connor, of Pennick-Ford, Ltd., lays one down the fairway



R. Brice, Larry Taylor, John H. O'Neil, and W. Brice (All except Mr. Taylor, who is with Ring Traveler Co. are with Draper Corp. These are the Brice twins who caused all the confusion the morning after) George Gilliam, of Sterling Cotton Mills, Franklinton, N. C., enjoying the view from the hotel porch. William Randolph, southern manager of A. E. Staley Mfg. Co., and "Smiley" Taylor, one of his star salesmen, relax a moment in the company of good literature

was further amplified by the next speaker, W. M. McLaurine, secretary of the American Cotton Manufacturers Association. Discussing changing conditions, he congratulated the members on their technical ability and skill in manufacturing. "This was once sufficient to make you a valuable man. Today, you may know all of this and still be of little value," he warned, "if you do not know the art that is required to handle people in this new social awakening. You must accept this responsibility and solve it, or some one else will solve it for you. People are individual in their thinking and must be dealt with as individuals." With this as a handle, Mr. McLaurine in his characteristic philosophical manner devoted the remainder of his speech to an analysis of the human traits, capacities, and desires of men.

Dr. Howard Rondthaler, president of Salem College, Winston-Salem, N. C., was the first speaker Saturday morning. His presentation was of an inspirational nature with its theme the "common ground between capital and labor." This common ground, he said, can never be built on industrial unrest, it is not a plat laid down by the Government, nor can it be found in industrial strife. It is a place which all parties can reach only by working for a common cause.

Industrial relations was also the subject of the address by William P.

(Continued on page 73)

Southern Hosiery Industry

Large increase in full-fashioned branch since 1931 moderate growth in other divisions

By WILLIAM G. ASHMORE
Southern Editor, TEXTILE WORLD

THE knitting industry has shown a steady growth in the South since 1931. Most dramatic has been the increase in the full-fashioned branch, which today has 51.9% more machines in place in nine southern States (as listed in Table I) than it had seven years ago. The seamless branch of the hosiery industry in the same territory has grown less rapidly, showing an increase of only 9.1% machines during the period. Underwear, outerwear and other non-hosiery knitting machines showed an increase of 16.7%. An interesting feature of the picture is that the period surveyed includes several of the worst of the depression years.

In 1931 there was a total of 359 knitting establishments of all types located in the South. This number had increased to 412 by 1938, a gain of 12.9%. Firms manufacturing hosiery exclusively increased from 301 to 361, up 16.7%. The exact number of full-fashioned hosiery mills operating in 1931 is indeterminable from available statistics, but in March, 1938, there were 100 such establishments in the nine States listed, plus 12 more in Maryland, Kentucky and Florida. These 112 mills are 30% of the 373 full-fashioned mills operating in the United States today.

Full-fashioned machines in the nine States increased from 1,808 in 1931 to 3,756 in March, 1938, a gain of 51.9%. Again adding Maryland, Kentucky and Florida brings the total to 3,972 full-fashioned machines, about 25% of the 15,751 machines in place in the United States. Of the 2,117 machines which have been added during the last seven years, 746 were used machines which migrated from other areas, notably Pennsylvania. From November, 1936, to January, 1938, approximately 1,000 machines were shipped into southern territory, of which about 400 were second-hand. New mills established in the South during 1937 accounted for around 300 new machines.

It should be mentioned here, for purposes of comparison, that despite a loss of 700 machines to other sections since 1936, the Pennsylvania district still has in place more than 50% of the nation's full-fashioned equipment.

New full-fashioned equipment set up in the South during this period showed a tendency toward finer gage, longer machines. The majority of machines put in were of the 24-section, 45-gage type, but in more recent years interest has been growing in 26-section, 45- and 50-gage machines.

The seamless branch of the hosiery industry presented a somewhat contrasting picture to the full-fashioned branch during this period. In 1931 there were 57,605 circular hosiery machines in place in the nine States under discussion. By 1938 this number had grown to 63,585, an increase of 9.1%. The large number of "new" seamless mills reported as being started up in the South during recent years involves to a large exent merely reorganizations or new corporations taking over machinery already on the ground. The Southern Hosiery Manufacturers Association reports that only 248 seamless machines were added in the South from July 1, 1934 to July 1, 1937. The majority of the machines added between 1931 and 1938 appear to have been set up during the early part of the period as market conditions were more favorable for the cheaper grades of hosiery at that time. Of the additional machines, there is no record of how many were new and how many used.

Underwear, outerwear and other non-hosiery knitting mills of the South showed an increase from 5,520 to 6,623 machines of various types, a gain of 16.7%. There are no figures available to show what percentage of this increase was due to migration and what to normal growth.

Since 1934 full-fashioned production of hosiery in the South has increased 44.3% and seamless production 18.5%, according to the National Association of Hosiery Manufacturers. Combined production of both branches showed an increase of 22.7%. A breakdown of production of both branches is not available for 1931. However, for purposes of comparison the Census of Manufactures reported that total U. S. production in 1931 of hosiery (except infants', athletic and golf) amounted to 96,203,651 doz. pairs. Table II-A indicates that the value of products of the entire southern knitting industry increased 7.6% from 1931 to 1935.

From 1931 to 1935 the southern knitting industry (including Maryland and Kentucky) had an increase of 20.8% in wage earners and 28.9% in wages, as shown in Table III. As previously pointed out, value of products increased only 7.6% during this same period. The effect of NRA's shortened hours and increased wages is thus clearly shown. Table III-A is a sectional breakdown of workers in the hosiery industry, exclusive of other knit goods. It is estimated that of the 178,011 knit goods wage earners in 1931, 112,324 were hosiery workers. At the

Table I—Establishments and Machines, 1931-38

	1931					1938 (March)						
	Total Knitting Establishments	Total Hosiery Mills	Full-Fashioned Machines	Seamless Hosiery Machines	Non-Hosiery Machines	Total Knitting Establishments	Total Hosiery Mills	Full-Fashioned Establishments	Full-Fashioned Machines	Seamless Hosiery Machines	Non-Hosiery Machines	Used F.F. Equipment shipped South 1931-38
Ala	21	12	119	2,553	785	17	10	3	146	1,137	622	54
Ga	40	27	56	8,022	973	41	32	9	284	7,360	1,372	201
Miss	5	5	.....	669	.....	10	8	6	206	1,183	258	133
N. C.	173	158	1,116	25,109	1,108	219	207	48	2,060	29,090	1,248	150
S. C.	13	10	24	1,631	54	11	10	3	76	1,150	38	10
Tenn	76	65	404	14,685	2,000	80	69	19	703	15,735	2,301	198
La	3	3	18	556	.....	3	3	1	39	780	.....	.....
Tex	3	3	15	219	.....	2	2	1	38	.....	.....	.....
Va	25	18	56	4,161	600	29	20	10	204	5,206	1,148	.....
Totals	359	301	1,808	57,605	5,520	412	361	100	3,756	61,641	6,987	746
Percentage Increase Over 1931						12.9%	16.7%	...	51.9%	7.0%	26.5%	.....

Table II—Production of Full-Fashioned and Seamless Hosiery in 1934 and 1937

(doz. of pairs) [*National Association of Hosiery Manufacturers*]

	1934			1937		
	Full-Fash. Hosiery	Seamless Hosiery	Combined Production	Full-Fash. Hosiery	Seamless Hosiery	Combined Production
Total Industry..	30,549,177	73,331,611	103,880,788	40,214,939	86,434,914	126,649,853
North....	23,827,983	21,918,942	45,746,925	28,158,841	23,358,916	51,517,757
South*...	6,721,194	51,412,669	58,133,863	12,056,098	63,075,998	75,132,096
* N. C..	3,916,302	27,042,999	30,958,301	7,084,758	32,539,841	39,624,599
* Tenn..	1,409,914	9,868,096	11,278,010	1,999,169	12,917,796	14,916,965
* Ga....	236,504	6,335,955	6,572,459	744,698	7,637,362	8,382,058
* Other South.	1,158,474	8,165,619	9,324,093	2,227,473	9,980,999	12,208,472
Percentage Increase Over 1934.....				44.3%	18.5%	22.7%

Table III—Wage Earners and Wages—1931-35

[*Census of Manufactures*]

	1931		1935	
	Wage Earners	Wages	Wage Earners	Wages
Ala.....	3,258	1,750,796	3,115	1,973,224
Ga.....	5,470	3,149,636	6,972	4,073,589
N. C.....	23,402	17,323,341	32,637	23,670,034
S. C.....	988	463,120	813	547,323
Tenn.....	16,010	8,564,292	17,812	10,988,083
Md.....	605	329,768	784	482,044
Ky.....	1,020	421,848	1,212	643,625
Va.....	2,731	1,641,017	4,021	2,527,707
*Others (estimated)..	1,100	600,000	1,600	900,000
So. Total.....	54,584	32,892,202	68,916	45,805,629
U. S. Total.....	178,011**	149,589,312	219,776	184,477,787
Percentage Southern Increase Over 1931.....			20.8%	28.9%

* Others: Mississippi, Florida, Louisiana, Texas.

** It is estimated that of 178,011 wage earners, 112,324 were hosiery workers exclusively.

Table II-A—Value of All Knit Products

[*Census of Manufactures*]

	1931	1935
Ala.....	7,695,051	6,726,322
Ga.....	13,863,116	14,715,035
N. C.....	69,087,446	75,318,473
S. C.....	1,596,581	1,445,849
Tenn.....	33,071,977	33,761,447
Md.....	1,390,688	1,811,407
Ky.....	1,602,629	1,815,296
Va.....	6,523,565	10,504,884
*Others (Estimated).	2,000,000	3,000,000
So. Total...	137,830,953	†149,098,713
U. S. Total..	585,677,382	606,725,684

* Miss., Fla., La., Tex.

† 7.6% increase over 1931.

Table III-A— Hosiery Workers Employed Oct., 1937

(Natl. Assn. of Hosiery Mfrs.)

	Total Hosiery Workers	Full-Fashioned Workers	Seamless Workers
Total Industry..	143,581	83,686	59,895
North.....	82,835	62,428	19,897
South*.....	61,256	21,258	39,998
* N. C....	33,971	12,934	21,037
* Other South..	27,285	8,324	18,961

end of 1937 there were 143,581 hosiery workers employed, of which 61,256 were located in the South.

The obvious conclusion to be drawn from this study is that the hosiery industry of the South has seen its real gain during the last seven years in the full-fashioned branch, although there were moderate gains in the seamless division and somewhat greater increases among the non-hosiery knitting mills.

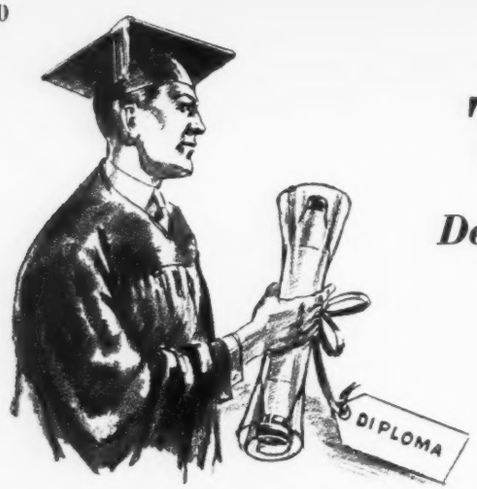
There are a number of reasons for the growth of the full-fashioned industry as described. In the first place, costs are undoubtedly much lower than in the North. For example, the weekly wage differential alone is estimated at 20%. A second advantage is that most of the newer mills are equipped with either new, or relatively new, high-speed equipment. The machines have more sections, are faster and of higher gage than the older machines in the North. These two factors alone mean that the North cannot hope to compete unless drastic changes are either made in wage scales or machinery. Consequently there will probably continue to be a migration to lower cost areas, despite the pressure and propaganda of business interests to keep the mills at home. It is understood that an effort is being made at this writing to secure an RFC loan for mills in the Pennsylvania area designed to stem the tide of removals. However, observers believe that relief from this source would be only temporary and that a more basic remedy is needed. Needless to say, the continuous labor strife in northern industrial areas has not encouraged mills to remain at home.

In discussing the advantages and disadvantages of the two sections, it should be pointed out in justice to southern manufacturers that there are no sweat-shop conditions among the full-fashioned mills, and that wages are well in excess of those paid cotton and rayon workers in the same areas. In fact, passage of the wage-hour bill will not help the North so far as the full-fashioned hosiery industry is concerned, as southern mills have been paying in excess of the minimum right along. Furthermore, the annual wage of the southern worker is probably as great as that of the northern employee, since the former works more regularly. Southern manufacturers assert that a wage differential is necessary because of disadvantageous freight rates. And they further justify it because of lower living costs.

Apparent reason why the seamless and non-hosiery branches of the knitting industry have not shown greater increases in the South during the period of this survey is because there is not enough difference in wage scales or condition of machinery to warrant the trouble and expense of moving South. Besides, the majority of seamless machines is already located in southern States, many of them having migrated earlier.

In conclusion, the writer would like to point out that one of the needs of the knitting industry is that the various agencies and the Government cooperate in improving and coordinating the available statistics. In compiling data for this survey, no two sources agreed completely and each one seemed to have its own approach to the subject. Consequently, it was quite difficult to show a clean-cut comparison of the industry of 1931 and of today. However, the accompanying data represent a mean of many sources of information, and, as such should present a relatively accurate picture.

Sources: Official American Textile Directory; Textile World; Census of Manufactures, U. S. Department of Commerce; *Statistical Folder,* Textile Machine Works; Fidelity Machine Co.; State Departments of Commerce and Industry; National Association of Hosiery Manufacturers; Southern Hosiery Manufacturers Association; Wharton School of Finance & Commerce; *Clark's Textile Directory; Davidson's Blue Book.*



Textile Graduates

Demanded by the industry in greater numbers than ever before

DESPITE the painful recession in the textile business during the last several months, a majority of the students graduating from the various textile schools have already found places in the industry. The remainder are expected to secure jobs by the end of the summer. This is particularly significant in view of the fact that most of the classes are considerably larger than they have been in past years. In fact, the quality and size of the graduating classes of recent years is an eloquent testimonial to the work of the directors of the various schools. This has come about in part through closer cooperation between the schools and the industry and through the long-range educational program of the Textile Foundation. Typical of the work of the Foundation is the series of text books prepared under its direction which is doing much toward coordinating the teaching in the various schools for the common good of the industry. The increasing demand for textile graduates is positive proof of the value of these schools and the contribution they make to the industry. Outstanding facts concerning graduation at the various institutions are given below:

Alabama Polytechnic Institute, Auburn, Ala. Graduated 16 students as compared with 9 two years ago. Jobs already secured by 15. Honor student was William Leon Langley, of Alexander City, Ala. Baccalaureate address delivered by Dr. D. W. Daniel, of Clemson College.

Bradford Durfee Textile School, Fall River, Mass. Graduated 24 day students in diploma courses; 12 in certificate courses. Diplomas were awarded to 44 evening students and certificates to a large number. Many of the day graduates have already found places in the industry, whereas most of the evening students were already employed. Rev. Phillips Endecott Osgood, D.D., rector of Emmanuel Church, Boston, was principal speaker.

Clemson A. & M. College, Clemson, S. C. Graduated 42 students as compared with 33 two years ago. Of the number, 27 received degrees in textile engineering, 11 in textile chemistry, and 4 in weaving and designing. Practically all of them secured jobs immediately upon graduation. Henry W. Woodhead received the *Textile Colorist* award. N.A.C.M. medal went to Harry Geisberg, Anderson, S. C.

Georgia School of Technology, Atlanta, Ga. Graduated 33 students in textile engineering as compared with 8 two years ago. One received a master's degree in the subject. Jobs have been secured by 24 of the graduates and 3 are expected to return for graduate work. Honor students were O. B. Andrews, Jr., R. C. Gourley, and J. B. Pendergrast, Jr. Principal speaker was C. F. Kettering, vice-president, General Motors Corp.

Lowell Textile Institute, Lowell, Mass. Graduated 34 students as compared with 30 two years ago. Two masters degrees were awarded. The Olney Book Prize was won by Winfield H. Howard, North Chelmsford, Mass. The National Association of Cotton Manufacturers medal was presented by Russell T. Fisher, president of the association, to Kenneth R. Fox, Lowell, Mass. Principal address was delivered by Judge David A. Rose, of Dorchester, Mass. At the 39th annual meeting of the alumni association, Russell T. Fisher, '14, was elected president, succeeding E. D. Walen, '13, of Pacific Mills.

New Bedford Textile School, New Bedford, Mass. Graduated 25 in diploma courses as compared with 24 two years ago. Day certificates were received by 29 as compared with nine two years ago. Post graduate day certificates were awarded to 4 students. Eight members of the graduating class will enter North Carolina State College this fall to work on Bachelor of Science degrees. Dexter S. Horvitz was winner of the National Association of Cotton Manufacturers medal. Frank Rapoza won the Hatch medal. The Peter H. Slater medal went to Frank Rzepa. John Foster was elected president of the alumni association.

North Carolina State College, Raleigh, N. C. Graduated 68 students as compared with 49 two years ago. Approximately two-thirds of the graduates have been placed in the textile industry and others are expected to make connections shortly. National Association of Cotton Manufacturers Medal awarded to W. P. Crawley, of Littleton, N. C. Leigh R. Powell, receiver for Seaboard Air Line Railway, gave the baccalaureate address.

Philadelphia Textile School, Philadelphia, Pa. Graduated 45 students in regular textile courses and awarded large number of certificates for special work. Dr. E. W. France, director, distributed diplomas. Principal speaker was Franklin Spencer Edmonds, attorney. Bradley C. Algeo, assistant director of the school, was re-elected president of the alumni association at its 37th annual meeting. Three technical papers were presented by Howard Price Galloway, John Hinternaier, and James Patrick Monahan. Mr. Galloway is a member of the editorial staff of TEXTILE WORLD.

Rhode Island School of Design, Providence, R. I. Graduated 14 students, with 7 already placed in jobs. Thomas L. Rusk, Jr., was awarded National Association of Cotton Manufacturers medal. Frederick B. Read, Jr., won the Southern New England Textile Club Scholarship. The Esmond Mills prize went to Eric S. Norell. Principal speaker was J. Edward Park, president of Wheaton College.

Texas A. & M. College, College Station, Tex. Graduated no textile students this year.

Texas Technological College, Lubbock, Tex. Graduated 9 students in June and two more will complete courses in August, as compared with 5 two years ago. All have been placed in jobs. Kendall Onscott was named honor student. Principal speaker at graduation exercises was Alfred E. Atkinson, president of Arizona University.

Vertical Integration . . .

Report sheds first real light on this debatable subject

FOR the first time, the extremely controversial subject of vertical integration in textiles has been studied scientifically. The results have just been published in a report based upon two years' investigation by the Industrial Research Department of the Wharton School of Finance and Commerce, University of Pennsylvania. The report concludes that whether two or more successive steps of textile manufacture or distribution can be brought under the control of one management depends not only upon the presence of certain favorable factors but also upon the particular methods or techniques by which such vertical integration is attempted.

The study was made possible by a grant from the Textile Foundation. It was undertaken upon recommendation of the U. S. Institute for Textile Research through its Committee on Economic Research, composed of F. S. Blanchard, Pacific Mills, chairman; Dr. Paul T. Cherington, H. V. R. Scheel, W. H. Turner, A. W. Zelomek; Stanley B. Hunt, Textile Economics Bureau; and Douglas G. Woolf, editor, TEXTILE WORLD.

Acting as an advisory committee for the Textile Foundation in working with the Industrial Research Department, that committee also had the active cooperation of W. Ray Bell, president, Association of Cotton Textile Merchants of New York; Arthur Besse, president, National Association of Wool Manufacturers; and Dr. Claudius T. Murchison, president, Cotton-Textile Institute.

Answers Many Questions

By analyzing specific cases at the major market stages like finished goods, gray goods, and yarns, the report throws light upon basic and far-reaching questions. How have certain mills been able to sell such finished products as men's suits or neckties instead of fabrics? What policies have assisted large surgical supply manufacturers to establish and operate textile mills successfully? Is there general significance in the factors that have permitted certain rayon weavers to sell both gray and finished goods? By what procedure have some rayon producers been able to establish fabric-producing departments? The answers to these and a host of similar questions are given in the report as well as a statement of the general principles underlying vertical integration.

Discussing the advantages and the disadvantages of organizing on a vertical basis, the report states that some companies have integrated under favorable conditions and failed; others have integrated against severe odds and succeeded. In many such cases, the important factor has been the way in which the integration program was undertaken.

The policies and techniques found most effective in overcoming or minimizing the obstacles usually encountered by the vertically organized company are reviewed to considerable length in the report.

Of all the policies found important to the support of successful vertical integration, that of developing means for adjusting quickly to new conditions is stressed in the report as fundamental.

Not a Panacea

Integration is not treated in the report as a panacea for the ills of the textile industries. Rather it is presented as a form of organization that has been found of value by some concerns and by some industries in minimizing the speculative aspects of textile manufacturing.

In view of the fact that the subject of vertical integration in textiles, treated fully for the first time in this report, has long been the subject of debate among textile executives, it is expected that these executives should find this report, titled "Vertical Integration in the Textile Industries," a valuable guide in appraising the business organization of their own companies. The report is being sold for $1.50 and copies may be obtained from the Industrial Research Department at the University of Pennsylvania, Philadelphia.

The directors of the Textile Foundation, which financed the study in part, are: Franklin W. Hobbs, chairman; Stuart W. Cramer, treasurer; Henry A. Wallace, Secretary of Agriculture; Daniel C. Roper, Secretary of Commerce; and Frank D. Cheney. Edward T. Pickard is secretary and assistant treasurer.

Hundreds of textile concerns provided information and the following trade associations assisted in many ways:

American Cotton Manufacturers Association, W. H. McLaurine, secretary; Association of Cotton Textile Merchants of New York, W. Ray Bell, president; Association of Cotton Yarn Distributors, Frank E. Slack, president; Cotton Manufacturers Association of South Carolina, William P. Jacobs, secretary; Cotton Textile Institute, Claudius T. Murchison, president; Durene Association, Dean Hill, president; International Association of Garment Manufacturers, A. F. Allison, secretary; Institute of Carpet Manufacturers of America, Herbert Gutterson, president; National Association of Cotton Manufacturers, R. T. Fisher, president; National Association of Finishers of Textile Fabrics William J. Matthews, chairman, executive committee; National Association of Hosiery Manufacturers, Earl Constantine, president; National Association of House Dress Manufacturers, S. L. Hoffman, president; National Association of Wool Manufacturers, Arthur Besse, president; National Federation of Textiles, G. H. Conze, president; National Knitted Outerwear Association, H. R. Lhowe, executive secretary; National Rayon Weavers Association, Charles Whitney Dall, president; National Retail Dry Goods Association, Lew Hahn, general manager; Southern Hosiery Manufacturers' Association, Taylor Durham, executive secretary; Textile Converters Association of America, Edmund Wright, executive secretary; Textile Fabrics Association, W. P. Fickett, president; Throwsters Research Institute, George A. Urlaub, executive secretary; Underwear Institute, Roy A. Cheney, managing director; Wholesale Dry Goods Institute, Henry Matter, executive secretary.

The completion of the report was announced at a luncheon June 29 at the Merchants' Club, New York, attended by most of the above; by the Committee on Economic Research and Wharton School Staff; and by the following: Franklin W. Hobbs, chairman, Frank D. Cheney, director, and E. T. Pickard, secretary, of Textile Foundation; Mrs. F. F. Morris, of the Foundation office staff; Dr. E. H. Killheffer, president, and C. H. Clark, secretary, of U. S. Institute for Textile Research, and Mildred G. Barnwell, executive secretary, Southern Combed Yarn Spinners Association. Mr. Blanchard presided, and the speakers included Mr. Hobbs, and Dean Joseph H. Willitts, of the Wharton School.

The authors of the report were Hiram S. Davis, George W. Taylor, C. Canby Balderston, and Anne Bezanson, all of Wharton School.

Speed Limit in Spinning

On woolen ring frames is determined by twist, fineness, and strength of yarn

By FRED ANDERS

As a result of his study of the woolen ring-spinning process, the author of the following article has developed some new and interesting theories regarding the speeds at which the frames can be run to obtain maximum production without impairing the quality of the yarn. We shall welcome comments from our readers regarding the methods proposed in this article or others which they have found satisfactory.

ONE OF the major objectives of woolen mills in installing ring spinning frames has been to increase production. Yet it is probable that very few mills are obtaining the maximum production possible with this type of equipment. Study of the ring-spinning process led the present writer to believe that one should be able to determine the correct spinning speeds for various types of yarns. Further work resulted in the conclusions outlined below as regards the speeds at which woolen ring spinning frames can be run in order to obtain the highest production without impairing the quality of the yarn produced.

In production of hard-twist fine yarns of good strength, traveler speed is the limiting factor. Experience has shown that the maximum traveler speed, to prevent excessive traveler wear, is 5,200 ft. per min. for vertical rings, and 5,800 ft. per min. for automatically lubricated vertical rings.

In production of soft-twist, fine or medium yarns of good strength, front-roll speed is the limiting factor. For most yarns of this type the maximum front-roll speed of the machine will be the limiting factor, but for some yarns of this type a slower roll speed must be arbitrarily chosen so that operators may piece up ends and maintain satisfactory quality.

In production of hard-twist medium yarns of good strength, motor horsepower is the limiting factor. For some yarns of this type a condition will arise where the load on the frame motor becomes so great that overheating results. When this is the case, spindle speed must be reduced to lower the load on the motor.

In production of hard-twist fine yarns of poor strength, yarn strength is the limiting factor. With these yarns, excessive end breakage is likely to result at very high spindle speeds. Hence, the spindle speed must be reduced so that the strain on the yarn at the lappet does not exceed the elastic limit of the yarn which is being spun.

In order to determine the speed at which the frames can be run to obtain maximum production without sacrificing quality, the spinner can make use of the formulas shown in Table I. Some of these are the conventional formulas used in ring spinning, while others—including all of those for hard-twist fine yarns of poor strength—have been developed by the author and are presented here for the first time.

Hard-Twist Fine Yarns of Good Strength—Traveler speed is the limiting factor. Maximum roll speeds and spindle speeds for various ring sizes and at the traveler speeds of 5,200 and 5,800 ft. per min. for one turn of twist per inch are shown in Tables II and III. With these tables the maximum production speed can be found, expressed as either the spindle or front-roll speed, for any given twist of hard-twist fine yarns of good strength, as shown in the following example:

Given data: 7.35 turns of twist per in., actual; contraction 5%; 7.00 turns of twist per in., theoretical;

Table I. Formulas Used in Woolen Spinning Calculations

General Formulas

1. Traveler speed in r.p.m. = (12 × Traveler speed in ft. per min.) ÷ (π × Ring diameter in in.)

2. Twist per in. = Traveler speed in r.p.m. ÷ In. of yarn delivered per min.

3. Twist per in. = Traveler speed in r.p.m. ÷ (12 × Front-roll speed in ft. per min.)

4. Twist per in. = [Spindle speed in r.p.m. — [(Front-roll diameter × Front-roll speed in r.p.m.) ÷ Average bobbin diameter]] ÷ [12 × Front-roll speed in ft. per min.]

Formulas for Whitin Model E frame

5. Roll gear = 1.270 ÷ Front-roll speed in ft. per min.

6. Main sprocket ÷ Cylinder sprocket = (Spindle speed in r.p.m. + 2% slippage) × 0.000291

Formula for Davis & Furber Model D frame

7. Jack-shaft sprocket ÷ Cylinder sprocket = (Spindle speed in r.p.m. + 3% slippage) × 0.000406

General Formula

8. Yarn weight × (Spindle speed in r.p.m.)^2 = Constant

Special formulas for balloon analysis

9. $$l = h^2 + \left(\frac{D-d}{2}\right)^2$$

10. $$\frac{S-d}{2} = f\left[1 + \frac{(D-d)}{8f}\right]^2$$

11. $$L = l\left(1 + \frac{8f^2h^2}{3l^4} - \frac{32f^4h^4}{5l^8}\right)$$

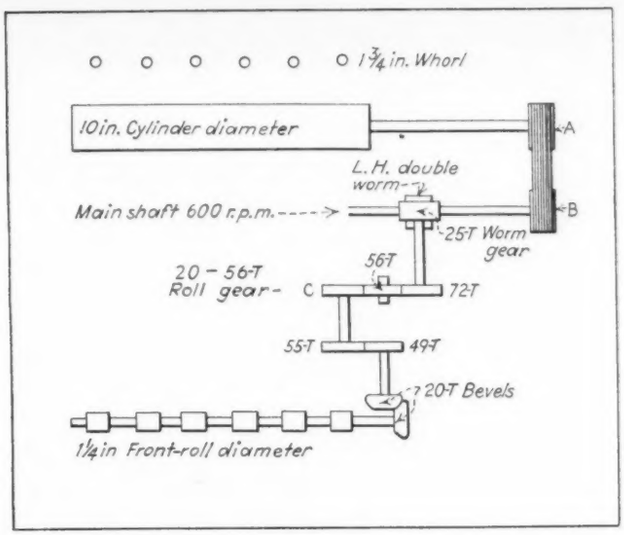
12. $$r = \frac{D}{4} + \frac{2fh}{5l}$$

13. $$C = \frac{0.0003383\ L\ w\ r\ (\text{r.p.m.})^2}{1{,}000{,}000}$$

14. $$P = \frac{C}{8f}\sqrt{h^2 + \left[4f + \frac{(D-d)}{2}\right]^2}$$

15. $$R = \frac{C}{8f}\sqrt{h^2 + \left[4f - \frac{(D-d)}{2}\right]^2}$$

16. $$V = \frac{Ch}{8f}$$



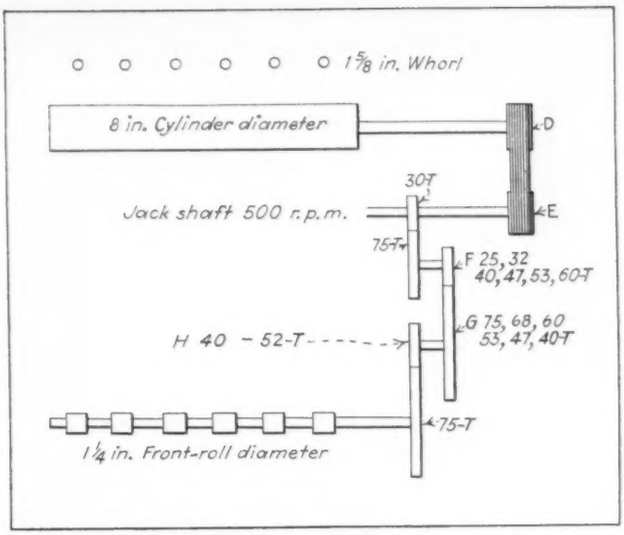


Fig. 1. Gear diagram of Whitin Model E ring spinning frame, from Whitin catalog, "Wool Spinning Frame." (A) cylinder sprocket; (B) main sprocket; (C) roll gear. Fig. 2. Gear diagram of Davis & Furber Model D ring spinning frame, from Davis & Furber catalog, "Simplex Wool Spinning Frame." (D) cylinder sprocket; (E) jack-shaft sprocket; (F) stud gear; (G) lever gear; (H) change gear

5-in. ring; 5,800 ft. per min. traveler speed; Whitin Model E frame.

Conditions: Maximum spindle speed = 4,490 r.p.m. (see Table III); Maximum front roll speed = 369 ÷ 7 = 52.7 ft. per min. (see Table II).

The correct front-roll gear is found by Formula 5, Table I, as follows: Front-roll gear = 1,270 ÷ Front-roll speed in ft. per min. = 1,270 ÷ 52.7 = 25T.

As the maximum traveler speed has been used to find the roll speed, gears must be chosen to give an equal or slower roll speed than that computed from the maximum traveler speed.

The sprocket combination is found by Formula 6, Table I, as follows: Main sprocket ÷ Cylinder sprocket = (Spindle speed in r.p.m. + 2% slippage) × 0.000291

= (4,490 + 90) × 0.000291 = $136 = \frac{38T}{28T}$

(Note: By setting 1 on the "C" scale of a slide rule over the value of the ratio of the change gears on the "D" scale, the value of the number of teeth in these gears can be read where any two numbers come opposite each other.)

To check the gear combination the following formula can be used: Spindle speed = (3,360 × Main sprocket) ÷ Cylinder sprocket = 4,570 r.p.m. (theoretical).

4,570 — 2% = 4,490 r.p.m. (actual).

Soft-Twist Fine or Medium Yarns of Good Strength — Front-roll speed is the limiting factor. The same formulas used for hard-twist yarns of good strength can be employed when soft-twist fine or medium yarns are being spun. Thus, the method for determining the sprocket combination and spindle speed is shown in the following example:

Given data: 5.15 turns per inch actual; contraction 3%; 5.00 turns per inch theoretical; 5-in. ring; Davis & Furber Model D; 208 roll r.p.m.

The spindle speed using an avg. bobbin diameter of 3 in. is found by Formula 4, Table I, as follows:

5 = [Spindle speed in r.p.m. — [(1.25 × 208) ÷ 3]] ÷ [π × 1.25 × 208]

Spindle speed = 5 (π × 1.25 × 208) + [(1.25 × 208) ÷ 3] = 4080 + 85 = 4165 r.p.m.

The sprocket combination is found by Formula 7, Table I, as follows:

Jack-shaft sprocket ÷ Cylinder sprocket = (4165 + 125) × 0.000406 = 1.74 = $\frac{80T}{46T}$

Hard-Twist Medium Yarns of Good Strength—Motor horsepower is limiting factor. The total load on the frame motor can be divided into two parts. The first consists of frictional resistance, inertia, etc., and remains constant under all conditions. The second consists of the centrifugal force of the yarn balloon and its air resistance, and is equal to the yarn weight per unit length times the square of the r.p.m. of the traveler, but for practical purpose the square of the r.p.m. of the spindle is used. This part of the load must be less than an experimentally determined constant. Once this constant has been determined for a given yarn, it can be applied to any other yarn for the same position of the yarn balloon.

By experiment the maximum spindle speed for a yarn weighing 300 grains per 50 yd. was found to be 3,070 r.p.m. on a 144-spindle frame with a 20-hp. induction motor. At greater spindle speeds the motor was seriously overheated.

A constant is determined by use of Formula 8, Table I, as follows:

Constant = Yarn × $(\text{r.p.m.})^3$ = (300) × $(3{,}070)^3$ = 2,830,000,000.

Table II. Maximum Roll Speed for Various Ring Sizes

Traveler speed in ft. per min.	Ring Diameter						
	6 in.	5½ in.	5 in.	4½ in.	4 in.	3½ in.	3 in.
5200	276	301	331	368	414	473	552
5800	307	336	369	410	461	527	615

Table III. Maximum Spindle Speeds for Various Ring Sizes

Traveler speed in ft. per min.	Ring diameter						
	6 in.	5½ in.	5 in.	4½ in.	4 in.	3½ in.	3 in.
5200	3360	3665	4030	4480	5035	5755	6710
5800	3740	4080	4490	4990	5610	6410	7470

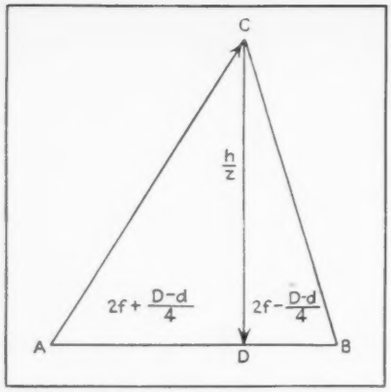


Fig. 4. Main forces acting on the yarn balloon. (BA) centrifugal force; (AC) force at lappet; (CB) force at traveler; (CD) vertical component of stress along yarn balloon, which is proportional to type, weight, and width of traveler

For a yarn weighing 200 grains per 50 yd. maximum spindle speed would be $\sqrt{2,830,000,000 \div 200} = 3,760$ r.p.m. under the same conditions of yarn balloon position. Formula 4, Table I is now used to find the front roll speed in ft. per min.

Hard-Twist Fine Yarns of Poor Strength—Yarn strength is limiting factor. To maintain as high a spindle speed as possible, the ideal position for the yarn balloon will be found to lie within ½ in. of touching the separator either inside or outside. This may be attained by a variation in the type, weight, and width of traveler used for any given spindle speed. Excessive beating of the balloon against the separator causes the yarn to break, due to weakening or coming out of the lappet. If the balloon is more than ½ in. from separator, the strain in the yarn becomes excessive, thereby resulting in end breakage.

As the balloon from the lappet to the traveler is in equilibrium, the action of centrifugal force on the yarn, and the strain on the yarn at the lappet and the traveler will represent the main resultant forces on the balloon. By an application of the principles of suspension-bridge cable design, one can compute these forces with the aid of Formulas 9 to 16 inclusive in Table I.

The maximum strain in the yarn, *P*, (Formula 16) can be found as follows: Compute *L* in Formula 9. Solve Formula 10 for *f*, the focus of the parabola. Find the length of yarn, *L*, (Formula 11). Solve for *r* (Formula 12), the radius of rotation of the center of gravity. Solve for *C*, the centrifugal force (Formula 13). Solve for *P* (Formula 14), using the r.p.m. giving the maximum balloon diameter, *S*. For any yarn position other than touching the separator, S/2 should equal the distance from the center of the spindle to the outermost portion of the yarn balloon.

The following example illustrates the use of the formulas to determine whether or not the spindle speed and the balloon outline exceed the elastic limit of the yarn.

Given data: h = 13.83; *D* = 5.12 (for 5-in. ring); *d* = 0.44; *S* = 6½; yarn weight = 1/3 grain per ft.; 4,380 r.p.m.; yarn breaking strength = 0.33 lb.; elastic limit = 25% of breaking strength; *D*—*d* = 4.68; *S*—*d* = 6.06.

Calculation:

9. $l = \sqrt{(13.83^2 + (4.68 \div 2)^2} = 14.027$ in.

10. $6.06 \div 2 = f[1 + (4.68 \div 8f)]^2$ or $f = 1.653$ in.

11. $L = 14.027\ (1 + 0.0360 - 0.00117) = 14.027\ (1.03483) = 14.52$ in.

12. $r = [5.12 \div 4] + [(2 \times 1.6298) \div 5] = 1.932$ in.

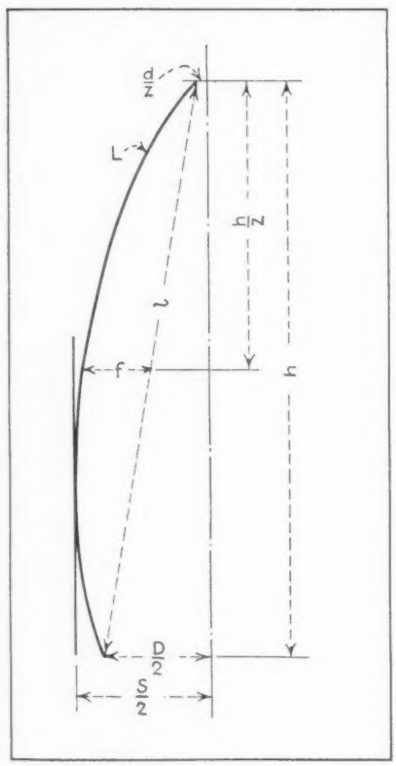


Fig. 3. Terms used in formulas: (l) distance from point of contact of yarn with lappet to point of contact of yarn with traveler; (L) length of yarn being whirled in inches; (d) lappet diameter in inches; (D) effective diameter of path of traveler in inches; (h) vertical height from top of traveler to bottom of lappet in inches; (S) distance between separators, or maximum balloon diameter in inches; (r) radius of rotation of center of gravity in inches; (C) centrifugal force in pounds; (w) weight of yarn in grains per ft.; (P) strain at lappet in lb.; (V) vertical component of stress along yarn balloon

13. $C = 0.0003383 \times 14.52 \times 0.333 \times 1.932 \times (4.38)^2 = 0.06069$ lb.

14. $P = 0.06069 \div (8 \times 1.653) \sqrt{(13.83)^2 + [4\ (1.653) + 2.34]^2} = 0.0756$ lb.

15. $R = 0.06069 \div (8 \times 1.653) \sqrt{(13.83)^2 + [4\ (1.653) - 2.34]^2} = 0.0664$ lb.

16. $V = (0.06069 \times 13.83) \div (8 \times 1.653) = 0.0635$ lb.

As the elastic limit of the yarn is approximately 0.082 lb., this spindle speed and balloon outline do not exceed the elastic limit.

Formulas for the Whitin Model E frame are derived from Fig. 1. The front-roll gear used equals a constant divided by the roll speed in feet per min. The value of this constant can be determined by tracing through the gear train from the main shaft to the front roll.

Front-roll speed in ft. per min. = (600 × 2 × 72 × 55 × 1.25) ÷ (25 × Roll gear × 49 × 12) = 1,270 ÷ Roll gear.

5. Roll gear = 1,270 ÷ Front-roll speed in ft. per min.

In like manner the ratio of the main sprocket to the cylinder sprocket is equal to the spindle speed in r.p.m. (with a small allowance for slippage) multiplied by a constant. The value of this constant is the reciprocal of the mainshaft speed multiplied by the driving-cylinder diameter and divided by the whorl diameter.

Spindle speed in r.p.m. = 600 (Main sprocket ÷ Cylinder sprocket) (10 ÷ 1.75) — 2% slippage

6. Main sprocket ÷ Cylinder sprocket = (Spindle speed in r.p.m. + 2% slippage) × 0.000291

Formula 7 for the Davis & Furber Model D frame is derived from Fig. 2 in same manner that Formula 6 was derived from Fig. 1.

Spindle speed in r.p.m. = 500 (Jack-shaft sprocket ÷ Cylinder sprocket) (8 ÷ 1.625) — 3% slippage.

7. Jack-shaft sprocket ÷ Cylinder sprocket = (Spindle speed in r.p.m. + 3% slippage) × 0.000406.

In compiling Table II, the traveler speeds, 5,200 ft. per min. and 5,800 ft. per min. were expressed in r.p.m. by substituting in Formula 1. Then by using Formula 3, the maximum front-roll speeds in ft. per min. per turn of twist per in. were calculated.

In compiling Table III, an average bobbin diameter and roll speeds were substituted in Formula 4 to calculate the approximate maximum spindle speeds for various ring sizes to effect traveler speeds of 5,200 ft. per min. and 5,800 ft. per min.

Getting the Most from Winders

Accurate analysis of cost factors essential to economical operation

By R. L. CHISHOLM
Universal Winding Co.

FOUR factors influencing winding costs are end-breakage, size of supply package and/or wound package produced, machine efficiency, and spindle assignment per operator. Piece rates will change as end-breakage changes, as also will machine efficiency and operators' spindle assignments. Rate estimates are usually based on a reasonable amount of end-breakage. When winding from bobbins, our check of the amount of end-breakage is based on the number of breaks per 100 bobbins. In cotton yarn, we usually base our estimates on 15 breaks per 100 bobbins. It will be found advantageous to make a regular check of end-breakage on winders, and, when you are running high, to classify the end-breakage and determine, if possible, what has caused the increase.

To assist in making such studies, prepare some narrow strips of black cardboard. Place a series of knife cuts down the edges and mount on this cardboard for more careful study slugs that are removed from winders. It is impossible to judge what happens on a winder by spending 10 or 15 min. observing. It is necessary to make a systematic check, and if you have one of these cardboards with samples of slugs mounted on it, you will have a pretty good idea of the causes of trouble, and you can go back to the other departments and give them samples of the defects which have been found.

As an example of how this works, we recently had a case where our check of end-breakage showed there were 48 breaks per 100 bobbins. After seeing our samples of imperfection, the management held a meeting in the spinning room, including some of the operators, and in a few weeks end-breakage was reduced to 16 breaks per 100 bobbins. This change made it possible for the operator to increase production 27.5% without doing extra work. The quality of the yarn was improved because the number of knots was reduced 32%. The winding was gradually improved because there were fewer stops.

The cost of winding also depends upon the size of the supply package and/or the size of the wound package produced. Fine counts of yarn will sometimes have 15 or 16 bobbins per pound. Coarser yarns will weigh about two bobbins per pound. In one case there will be 15 or 16 knots to produce a pound of yarn without end-breakage, and in the other, only one. From these figures it can be seen that the lowest winding cost will be obtained from the largest supply package. We also find that there is great variation in the size of bobbins from one doff to another. It would be possible for mills to save a considerable sum of money if they would concentrate on producing bobbins of the maximum weight.

Machine Efficiency

The third factor influencing winding costs is machine efficiency. Other departments of mills, where the machines require operators to work only when a break occurs, are usually run at high machine efficiency. On a winder the opposite is true. The girl must be at the machine every minute, and will average about ten knots per minute for most of the day. Mills get the lowest winding cost when they make a reasonable allowance for loss of machine production. Such allowance will make it possible for the girl to work at a more uniform pace and save her from jumping from one end of the winder to the other. Those mills which require operators to keep spindles producing all the time will get higher machine efficiency, but their cost of winding will also be high, because operators will not be permitted to get the best production.

For instance, the investment cost is usually charged off to the cost of manufacturing over a period of years, and when this figure is reduced to a weekly basis and compared with an operator's earnings, it will be found that the cost of the machine is relatively inexpensive. As an example, a drum winder may sell for $30 per spindle. If this investment is passed on to the cost of manufacturing over a 15-year period, it will amount to $2 per spindle per year, which is at the rate of 4c. per spindle per week. If an operator is tending 50 spindles, the machinery cost would be $2 per week in addition to her wages.

If we draw a chart showing how machine efficiency falls off as operator production increases, we shall find a point where the two curves come together. This point will represent the most economical way to operate the winders. At it the operators will be able to produce more but the machine efficiency will be lower. It is best to strike a happy medium, and if the point is carefully worked out the mill will have satisfied operators, a reasonable machine efficiency, and a low cost of winding.

Spindle Assignments

Also having an influence on winding costs is the spindle assignment per operator. There are mills that only operate one count of yarn and one size of supply bobbins. In these mills it is a fairly simple matter to work out a reasonable spindle assignment that will give the lowest cost of winding. Many mills, however, have a complicated winding problem. The count of yarn may be changed from day to day; there may be several sizes of supply packages to wind from; orders may call for more than one size of finished package from the winder; the quality of yarn may vary; and, if lots are small, there may be considerable time lost when changing over from one count to another. Allowance must be made for each of these variables.

Mills will get best results by giving operators enough spindles so that they can keep the machines running continuously on the finer counts of yarn and, when it is necessary to run coarser counts on which it is not possible to run the full spindle assignment, the operators should be permitted to run as many spindles as possible. An operator on coarser numbers might not be able to run more than half the spindles assigned, but it would be cheaper for the mills to make this sacrifice in machine efficiency, because it would be more than made up by the lower cost when winding finer numbers.

Abstract of a paper presented May 26, 1938 before the Textile Society of Canada —Western Division.

Surface-Active Chemicals

Their wetting-out and detergent properties from a practical point of view

By GEORGE A. THOMAS

Recently the textile man has added to his vocabulary the term "surface-active chemicals." Soap; soluble oil; sulphonated oil; the host of new wetting-out agents, penetrants, and detergents introduced in the last few years — these are all surface-active chemicals. Although these products, both old and new types, are widely employed in every branch of the textile processing industry, there is still considerable mystery in the minds of many mill men as to just what they will and will not do under various conditions of use. In this article —the first of a short series intended to dispel some of the mystery—the author discusses the subject of surface-active chemicals from a practical point of view.

SURFACE activity is of importance in the textile industry in those operations or processes where fibers, yarns, or fabrics come in contact with an aqueous solution. Because processes employing water solutions of various chemicals are necessary in the handling of every type of textile fiber, the interest in surface activity extends to all branches of the industry. These processes differ materially with respect to the ultimate results desired and the operating conditions necessary to accomplish these results. In general, however, each of these processes accomplishes one or more of the following results:

1. Fibers, yarns, or fabrics are wet out.
2. Some natural or acquired impurity or foreign material is removed.
3. Some substance is added to the fiber, yarn, or fabric.
4. Some physical state of the fiber, yarn, or fabric is changed.
5. Some chemical state of the fiber, yarn, or fabric is altered.

These results are accomplished under a wide variety of operating conditions. Thus, in some instances an ice-cold solution is employed; in others the temperature is higher than that of boiling water. Some processes require the strongest acids; others use the most powerful alkalis. The more common factors governing the textile processes where surface activity is involved are as follows:

1. The pH value of the bath; i.e., the degree of acidity or alkalinity required for best results.
2. Degree of resistance to lime and other salts present in the bath. (This is a negligible factor in some operations and of paramount importance in other processes.)
3. Optimum temperature for the process.
4. Physical condition of the bath, solution, or material. (In some processes foam or suds is required; in other processes no foam or suds can be tolerated. Some baths are extremely fluid; others are of a pasty nature.)
5. Bath ratios. (These will vary from more fiber than solution to many times more solution than fiber.)

A few examples will serve to bring out the full significance of these points and indicate the difference in results obtained under different operating conditions.

A cotton warp is sized by running the dry warp through the size box at a speed of 15 to 60 yd. per min. This means that each yard of the warp must be wet out and penetrated by the size in a matter of seconds. There is no removal of impurities, but there is a definite addition of size to the warp. The pH value of the bath is between 6.5 and 6.8. Resistance to lime and other salts is of little consideration, provided no scum or curd is developed. The optimum temperature is 202 to 206° F. The slightest degree of foam cannot be tolerated.

In the fulling and scouring of woolen piece goods, both the results desired and the operating conditions are entirely different. The cloth enters the fulling mill dry, and is wet out or moistened with a cold or lukewarm, viscous or jelly-like mess of fulling medium. The rapid and uniform manner with which this solution is taken up by the cloth determines the uniformity of cover and the freedom from chafing or mill wrinkles. All natural grease, and the oil, dirt, etc., acquired by the piece during the previous operations must be so loosened in the fulling process that they can be completely removed in the subsequent scouring operation. The fulling and scouring solutions are distinctly alkaline (pH in excess of 9.5). There is always a danger of lime and other salts interfering with the operation. The temperature in the fulling mill does not exceed 115° F., and that in the washer does not exceed 130° F. Presence of suds in the scouring bath is the tell-tale indicator used by operators in determining whether the work of scouring or impurity removal is proceeding in an efficient manner.

Many Types of Products

Prior to 1916 only three distinct types of surface-active chemicals were available to the textile industry. They were: (1) soaps, (2) soluble oils, and (3) sulphonated oils.

Under some operating conditions these compounds possess various degrees of wetting-out properties and will remove most of the natural and acquired impurities of fibers, yarns,

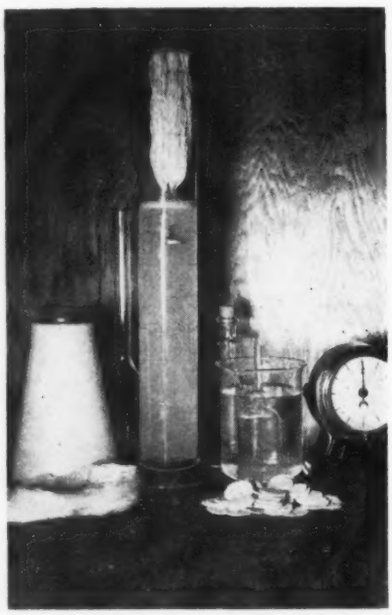


Fig. 2—Apparatus used in Drave's method for determining wetting-out speed of surface-active chemicals

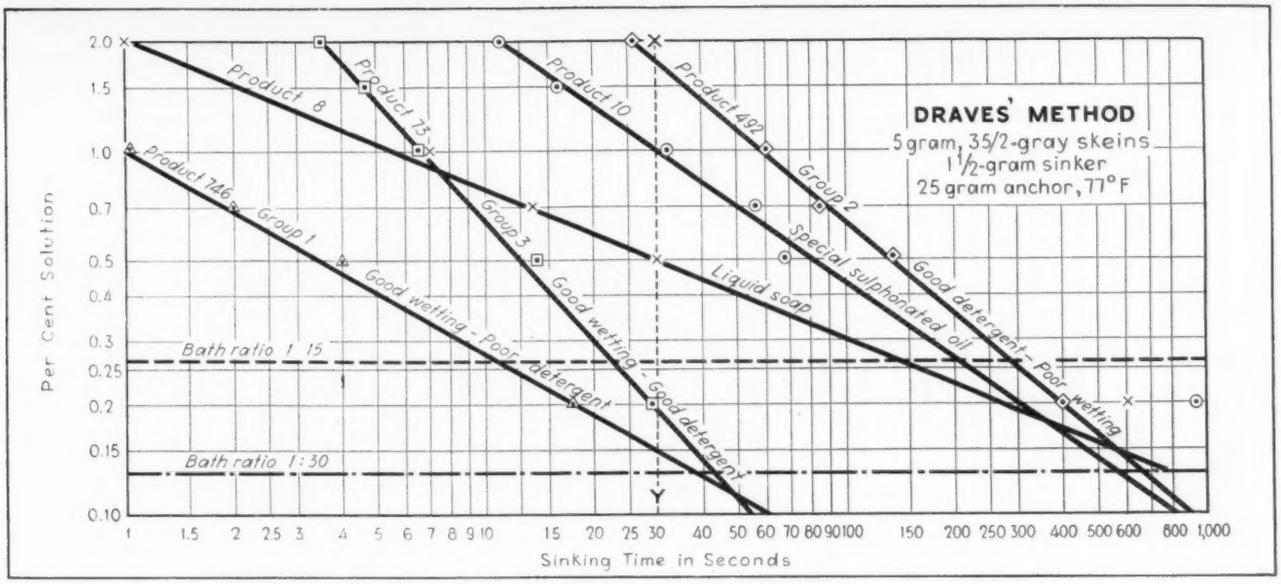


Fig. 1—Chart showing wetting-out speeds of several types of surface-active chemicals

and fabrics. They can be added to textile materials up to certain amounts. They can alter or change the physical or chemical state of fibers and fabrics.

The fact that these products possess the desired properties under some operating conditions and not under other operating conditions has inspired research workers to develop products which do not have the deficiencies of soaps, soluble oils, and sulphonated oils.

In recent years a wide variety of surface-active chemicals have been developed in this and foreign countries. A bibliography, which is admittedly incomplete and which covers the twenty-year period of 1916 to 1936, contains more than 600 references to product and application patents. Practically every manufacturer of dyes and textile chemicals is now offering synthetic surface-active chemicals.

Complicated and intricate as the chemical composition of the newer surface-active chemicals may be, the products can be put into three groups according to their wetting-out and detergent properties. Such a grouping is as follows:

1. Good wetting-out; poor detergent properties.
2. Good detergent; poor wetting-out properties.
3. Good wetting-out; good detergent properties.

The chart shown in Fig. 1 is a graphic representation of the wetting-out speeds of several of the older and newer type products. In conjunction with the chart, it should be noted that wetting-out speeds of solutions at various concentrations can be plotted on Log-Log paper to produce a theoretical straight-line curve within the solubility limits of the product in question. The starting point in this case is a 2% solution and the end point is a 0.2% solution.

It will be seen that Product 8 has instantaneous wetting-out speed at 2% concentration, and that the speed falls off rapidly at the more dilute concentrations. Theoretically it should wet out in 250 sec. at 0.2% concentration, yet it has actually taken 600 sec. This indicates that between 0.5% and 0.2% a decomposition or breakdown of the compound has taken place.

Product 10 wets out more slowly in the higher concentrations and does not fall off so rapidly until dilutions below 0.5% are reached. Then it falls off so rapidly that at 0.2% concentration it requires more than 900 sec. to wet out.

Products 492, 73, and 746—which are among the more recent developments—do not show the falling off from the straight line curve as the products are diluted. With the exception of Product 492, they have faster wetting-out speeds.

In considering the practical use of any surface-active substance in textile processing, one must make a distinction between the expression "per cent solution" and "per cent on the weight of the goods." Many processing formulas are given in per cent on the weight of the goods, yet the efficiency of bath is determined by the per cent solution. The difference is clearly seen in the following example:

Hosiery-dyeing recipe: 1.75% dye; 4.00% penetrating agent; 20.00% glauber salt.

If the hosiery were being dyed in a rotary dyeing machine, the bath ratio would be 1:15; in a paddle machine the bath ratio would be 1:30. The concentrations of the penetrating agent would be 0.26% and 0.123%, respectively.

The wetting-out effect of the penetrant added to the recipe would depend on the type of equipment used. The wetting-out speed in the rotary machine would be where the product line intersects the bath ratio line 1:15. In the paddle type machine the wetting out speed would be where the product line intersects the bath ratio line 1:30.

The results are summarized in following table:

Table I. Wetting-out speeds for 4% penetrant on weight of goods

Product	Bath ratio 1:15	Bath ratio 1:30	Difference
8	140 sec.	800 sec.	660 sec.
10	210 sec.	550 sec.	340 sec.
492	280 sec.	680 sec.	400 sec.
73	23 sec.	44 sec.	21 sec.
746	12 sec.	37 sec.	25 sec.

A chart such as shown in Fig. 1 can serve another useful purpose in computing costs or establishing the money value of a product for wetting-out purposes. Line X-Y represents the 30-sec. wetting-out line and is chosen because it intersects all of the product curves. The concentration required to provide a 30-sec. wetting-out time will give a basis for computing money values. Curves of the types shown in Fig. 1 likewise provide a means of readily determining how much of one product it will take to replace another from the viewpoint of performance.

(In the next article of this series the author will describe methods for determining the wetting-out and detergent properties of surface-active chemicals.—*Editor.*)

Waste Heat from Diesels

In textile mills can be reclaimed and put to work

By CHARLES L. HUBBARD

DIESEL engines have a definite place in textile manufacturing —either as a supplementary source of power or as the main source of power. A diesel engine is compact, economical to operate, and easy to install; furthermore, it operates at a fairly uniform and a comparatively high efficiency. These advantages were discussed in the July, 1935 issue of TEXTILE WORLD. The present article has particular reference to the utilization of waste heat from diesels for heating buildings and for process work.

Conditions will vary in different mills; but the principles involved are much the same for all mills, so that the accompanying diagram will serve as a basis for a layout in the average case. As a rule, the waste heat is utilized by the radiating system in the form of hot water, although steam may be generated from it in a suitable boiler.

In the arrangement shown, the engine jackets, gas boiler, and supplementary heating boiler are placed in series. The water passes from the pump through these in the order indicated, through the radiating system, and back to the pump. An elevated expansion tank, vented to atmosphere, is connected to the main return from the heating system; and make-up water is supplied through a connection near the heating boiler. The heating boiler is fired by an oil burner, which is automatically controlled by thermostat No. 1, centrally located in the building.

When heating requirements are within the capacity of the waste heat from the engine alone, the supplementary heating boiler can be cut out of the system by closing hand valves *D* and *E*. In this instance, the temperature in the building is regulated by thermostat No. 2, which controls a three-way damper in the exhaust pipe to vary the quantity of hot gas passing through the gas boiler. When the outside temperature is such that the heat available from the working range of the jacket water is sufficient for warming the building, the gas boiler will be entirely shut off by the three-way damper. If the available heat from the jacket water is in excess of that required for warming, temperature regulation can be secured by passing part of the jacket water through the cooling tower. A three-way, hand-operated or thermostatically controlled valve in the discharge pipe beyond the engine can be used for this.

Water Temperature

High temperature of the cooling water tends to cause scale if the water contains any mineral content. Hence, the allowable temperature of the water leaving the engine is 125° F. for hard water and 150° F. for soft water. When water is used over and over again as with a heating system, and the sediment blown off at frequent intervals until impurities are largely eliminated, the allowable temperature is 160° F. or higher. In the particular plant discussed in this article, water enters the engine jackets at 140° F. and the temperature is raised to 160° F. in passing through to the gas boiler where it is brought up to approximately 170° F. Next, the water passes through the heating boiler where another 10° F. is added, so that it enters the heating system at about 180° F. In passing through the radiators the water is assumed to lose 40° F. in temperature. Thus it goes through the pump and back to the engine jackets at 140° F. to complete the cycle.

Under ordinary operating conditions, with cooling water entering the engine jackets at 55 to 70° F. and leaving at 125 to 150° F., from 4 to 8 gal. per horsepower per hour will be required. However, when the working range is reduced to 20° F. as assumed in the layout shown in Fig. 1, the volume of water circulated must be increased proportionally. Tests show that the quantity of cooling water may be increased to as much as 50 gal. per horsepower per hour, wihout any bad effects, provided it does not cause too high a pressure on the circulating pump.

The volume of water required for engine cooling will be found by use of the formula: $V = H \div (T \times 8.3)$.

V = volume of water in gallons per hour

H = heat absorbed by cooling water per hour, which amounts to approximately 2,400 B.t.u. per horsepower of the engine

T = temperature rise of water in degrees Fahrenheit in passing through the jackets.

For a temperature rise of 20° F., the volume of water to be circulated would be $2400 \div (20 \times 8.3) = 15$ gal. per horsepower per hour.

The heating system may require circulation of more water than it is advisable to pass through the engine jackets; if so, a bypass connection can be run from the pump discharge to the heating boiler as shown in Fig. 1. After opening valve *C* and closing *D*, and properly adjusting valves *A* and *B*, the pump can be speeded up to handle the full quantity of water. When the correct adjustments are made, the normal quantity of water will pass through the jackets to cool the engine properly, while the excess delivered by the pump will flow through valve *B* directly to the heating boiler. When operating in this manner, the general action of thermostat No. 1 is the same as described above.

Gas and Water Heating Boilers

A satisfactory gas boiler must be so designed as to produce a rapid flow of heat from the gases to the water, and should be non-corrosive and easy to clean. The modern type of fuel economizer provided with cast-iron casing and equipped with soot blowers may be used with good results if a special boiler of the proper size is not readily available.

In general, gas boilers or heaters should be designed and proportioned by the makers. For this purpose, the makers should be furnished with the following information: volume of water to be heated per unit of time, initial and final temperature of water, power of engine, and approximate initial temperature of exhaust gases, which may be assumed to be 700° F.

Tests of an economizer with initial and final gas temperatures of 660 and 336° F., respectively, show a heat transfer of 6.7 B.t.u. per square foot of surface per hour per degree of difference between the average gas and water temperatures. With the layout shown in the diagram the average temperature of the water passing through the gas boiler is $(160 + 170) \div 2 = 165°$ F., and the average gas temperature as shown by the economizer test is

(660 + 336) ÷ 2 = 498° F. The computed heat transfer is (498 — 165) × 6.7 = 2,231 B.t.u. per square foot of surface per hour. With a fuel consumption of 0.43 lb. per horsepower per hour, at a heating value of 18,500 B.t.u. per pound, and with a discharge of 26% of the heat of combustion into the exhaust gas, the heat passing into the gas boiler will amount to 0.48 × 18,500 × 0.26 = 2,068 B.t.u. per horsepower per hour. If we assume an efficiency of 75%, the boiler will extract 2,068 × 0.75 = 1,551 B.t.u. Hence, at this efficiency the heating surface required for a gas boiler of the economizer type will be 1,551 ÷ 2,231 = 0.7 sq.ft. per engine horsepower. For approximate estimates, 1 sq.ft. is a safe figure. However, for accurate work, calculation of the heating surface should be left to the makers of the boiler.

Since the gases leave the engine exhaust pipe at high velocity, there should be an equalizing chamber beneath the tubes of the economizer; and it should be provided with baffles so placed as to distribute the entering gas evenly over the entire heating surface during its passage through the economizer.

The supplementary water-heating boiler may be of any appropriate type adapted to this purpose. Either coal or oil can be used for fuel. However, the boiler is more easily controlled when oil is used. In some cases it is better to make use of a tubular steam heater instead of a direct-fired heating boiler, as shown on the drawing. This may be supplied either with direct steam from the boilers (usually at a reduced pressure) or with exhaust from the engines or turbines, depending upon which is the more advantageous.

Heating Water for Process Work

The general arrangement for water heating is similar to that shown in the diagram except that a hot-water storage tank takes the place of the heating system or building radiation system. When the maximum temperature required does not exceed that of the jacket discharge (125 to 150° F.), the engine jackets and gas boiler are connected in parallel with the tank. When the normal quantity of jacket water exceeds the requirements for process work, the surplus overflows through a float tank located above the storage tank. Under reverse conditions, make-up water automatically flows into the system through the float tank. If the temperature of the water in the storage tank falls below that required, a thermostat automatically bypasses enough hot gas through the gas boiler to bring the temperature up to normal. Make-up water entering the system passes through the gas boiler on its way to the float tank, and thus transfers additional heat to the storage tank when it is required.

When a process temperature higher than that of the jacket water is required, the jackets and gas boiler are placed in series and the temperature is regulated by means of the thermostatically controlled three-way damper in the engine exhaust pipe shown in the diagram.

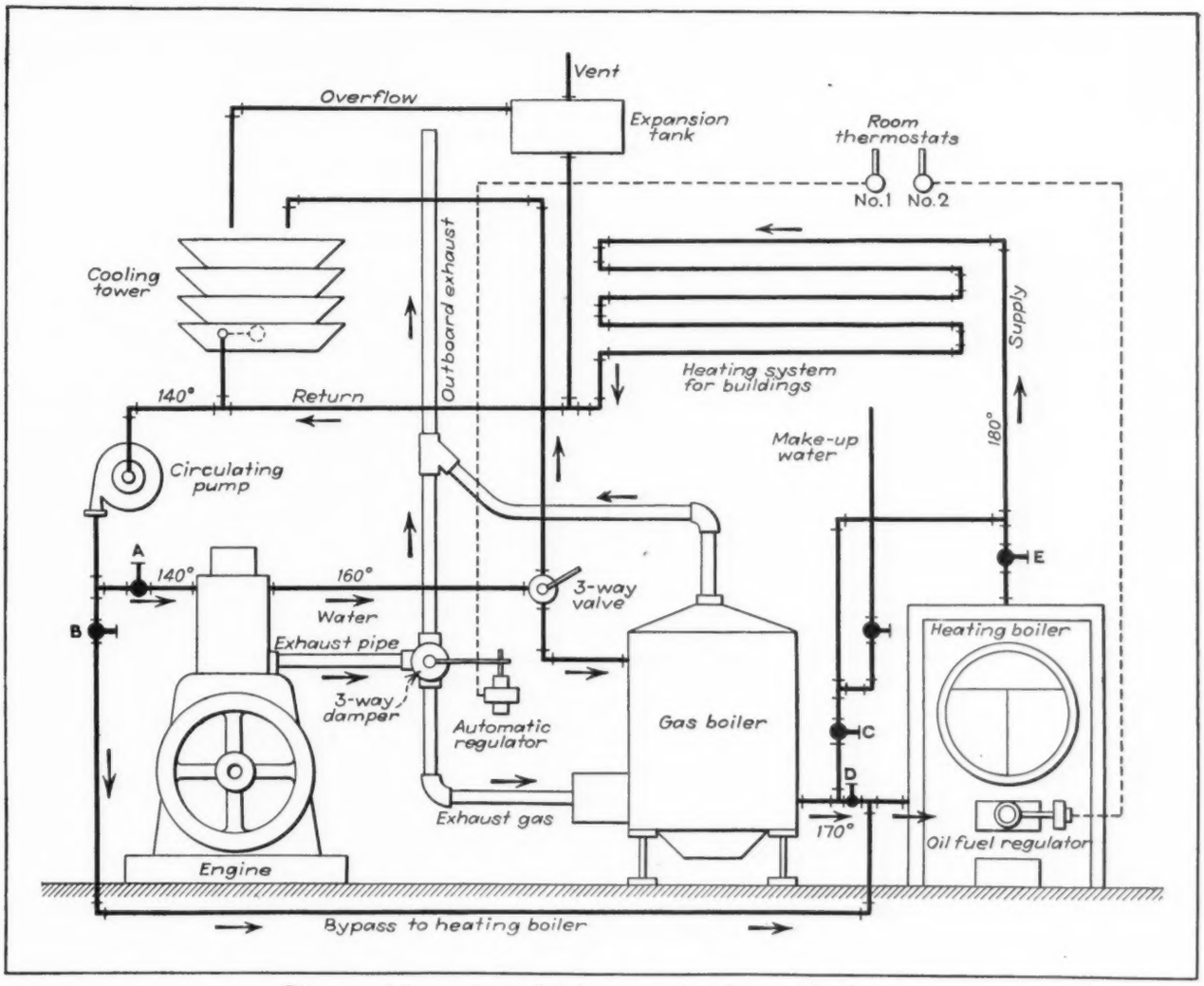


Diagram of layout for reclaiming waste heat from a diesel engine

Common Defects in Plush

Inaccuracies in settings or materials responsible for many imperfections

By JAMES PATRICK MONAHAN

PLUSH defects are many and varied, and each type of defect may be of almost any size. Imperfections in the finished cloth, discovered during the final examination, may have been caused in any of the operations connected with the spinning, weaving, dyeing, or finishing departments. The operator of the perch must be well acquainted with the way in which the cloth has been processed, and the uses for which it is intended; he is generally known as the final examiner, because his is the final word as to the grade which is given any particular piece of cloth.

Most mills grade their fabrics into three classes: A, "regulars," cloth with very few imperfections; B, "seconds," cloth which contains more than a given number of imperfections; and C, cloth which is on the borderline, and which may be unmerchantable. Cloth in this final classification, although small in quantity, is most troublesome to dispose of, and in many cases must be cut up and sold as short lengths or pound goods.

A knowledge of those defects most frequently encountered, and the causes which are responsible for them, will enable mill managements to trace imperfections to their sources, and take steps to remedy conditions causing them. The list given herewith shows the defects most often found in plushes, and their causes.

Abstract of a paper presented at the 37th Annual Meeting of the Alumni Association of the Philadelphia Textile School.

DEFECT	DEFINITION OF DEFECT	CAUSE OF DEFECT
Pile end out	Pile end not weaving	Break in pile yarn.
Pile ends not binding	Self-explanatory	Knots and/or lumps in yarn which force or hold particular ends out of the proper shed.
Creepy pile	One ground end creeps under another and pushes pile out of place	False reed not in place; tight heddles; temple not out far enough or out too far.
Pile not equal	Top piece has higher pile than bottom, or *vice versa*	Knife incorrectly set.
Pile laid in	Pile twisted, pulled over, and started without weaving plain	Short pile warp.
Snarl	Pile sticking together, making bare place	Knots, waste, lumps, and/or sticky yarn.
Press mark	Pile pulled together, making a low place	Knot in yarn; weaver careless in use of his hands when repairing ends.
Pile rubbed out	Pile pushed or rubbed out of cloth	Rubbing with knees against fabric on loom and/or in transportation.
Finger marks	Pile pushed out by fingers	Carelessly pulling goods off pin-rolls; also rolling while hands are sweaty.
Coarse end	Pile or ground yarn uneven in size	Self-explanatory.
Wrong end	Wrong yarn used for warp end	In pattern goods, mixed yarn; using wrong tie.

DEFECT	DEFINITION OF DEFECT	CAUSE OF DEFECT
Fine end **Split end** **Chafed end**	End split, making it only half or part of original size	Poor yarn; sharp reeds in warping; worn heddles.
Ground not binding	Self-explanatory	Shed out of order; ground warp too slack.
Ground end not binding	Self-explanatory	Lumps in yarn back of harness; waste or knots in ground warp; slack end in warp.
Ground laid in	Ground twisted, pulled over, and started without weaving plain	One ground warp (in fabrics using two) short.
Ground end out	Ground warp end not weaving	Break in ground warp.
Float	A number of ground ends not binding	Waste, lumps, knots in shed holding ends from binding.
Coarse end	Pile or ground warp yarn uneven in size	Self-explanatory.
Filling lumps	Lumps on filling	Knots, lumps, and/or waste on quills.
Coarse filling	Filling coarser than in balance of fabric	Uneven yarn; mixed filling.
Shaded filling	Filling yarn varying in shade	Uneven dyeing.
Tight filling	Filling drawn tight for a few picks	Knots; uneven tension (silk).
Filling loop **Kinky filling**	Filling kinks up while weaving	Uneven tension in shuttle.
Skip	Filling does not bind for a short distance	Yarn caught; incorrect shedding.
Broken pick	Filling breaks and catches part way in shed	Harness out of line; tight or slack ground warp; dry and harsh filling.

DEFECT	DEFINITION OF DEFECT	CAUSE OF DEFECT
Overturned pick	Filling creeps under pile and pick ahead or behind	Cut in shuttle box; knots, lumps, waste on quills; cut by fork; cut in edges; soft place in filling; run-over on quill.
Missed pick	A pick left out of the fabric; it makes a streak across the cloth	Weaver, in starting the loom, did not have the correct shed.
Loose pick	Filling loose in the fabric for one pick	Shuttle tension not correct; too much tension on ground warp; loose crankshaft boxes.
Tight pick	Filling tight in the fabric for one pick	Shuttle tension too great; lumps, waste, or knots in filling; filling runs off top of quill and sticks between quill and shuttle.
Tight edge	Edge tighter than body of cloth	Edge hung too tightly.
Poor edge	Edge woven poorly	Binders and temple not working properly.
Binder out of order	Binder does not protect edge from raveling	Binder not weaving correctly.
Loose edge	Edge looser than body of fabric	Edge hung too loosely.
High and low	Pile cut high and low lengthwise of the piece	Pile or ground regulator out of order; pile picked out, due to slipping over plush roller.
Cut moiré	Cut dark and light in design fashion	Smooth or rough cutting, depending on type of cloth.
Cut ribby	Pile cut in ribs	Uneven shed.
Cut rough	Pile cut rough	Knife cutting incorrectly; stones not clean.
Cut choppy	Pile cut unevenly in height	Poor knives; loose knife; knife plate or slide out of order.
Knife marks	Pile pulled out in places	Knife jacks not properly set; putting in new knife.
Around pin roller	Cloth wound around pin roller	Cloth not taken from pin roller in time.
Bare places	Top and bottom pieces pulled together, making a place bare of pile	Knots and lumps caught by reed.
Wrinkled fabric	Creases in fabric	Fabric not properly rolled up or handled.
Reed marks	Tight and loose places running lengthwise	Weak reed; weaver's hook; shuttle bangs in; rough or rusty pins.
Pin holes	Holes from pin roller	Thick, crooked pins; cloth improperly pulled off pin rollers.
Oil spots	Self-explanatory	Excess oil on loom.
Slack section mark	Slack place in pile or ground warp	Improper warping.
Pattern ends twisted wrong	Self-explanatory	Lease on end of pile warp not picked correctly; Pattern not twisted correctly.
Wrong draw	Pile or ground end not in proper place in harness and/or reed	End not drawn in right by weaver; end twisting around the next one, and running through with it.
Knots	Round, thick, slip, and long-tail knots	Winding and warping departments; yarn.
Holes	Self-explanatory	Cloth caught around the pin roller, or on other loom parts, or in transportation.
Loose place	Less picks per inch than in balance of fabric	Picking back; pick or ground regulator out of order.
Tight place	More picks per inch than in balance of fabric	Picking back; pick or ground regulator out of order.
Smash	Breaking out of a number of ends	Loom started with shuttles in wrong boxes; split shuttle; protector out of order; picker breaks and flies in.
Soiled cloth	Self-explanatory	Cloth improperly handled.
Loose filling / **Slack filling**	Filling loose in fabric	Filling tension incorrect; shuttle may rebound in box; not enough wool in shuttle.
Loose pile end / **Slack pile end**	Pile end not same tension as rest of warp	Spool running with warp not under same tension.
Loose ground end / **Slack ground end**	Ground end not same tension as rest of warp	Spool running with warp not under same tension.
Low place	Mark in goods, where pile is lower	Starting up loom after standing for some time or overnight; ground or pile regulator out of order; picking back.
Fine filling	Filling finer than that in balance of fabric	Yarn running uneven in size; mixed filling.
Tight ground end	One ground end pulled tighter than others	End caught on lease rods.

Scheduling Print Orders

Departmental planning and control system permits overseer to lay out work in efficient manner

By HEINZ SPEIER

LAST FALL a well-known print works installed a departmental production planning and control system which has enabled the overseer of printing to lay out and schedule the work of his department in a highly efficient manner. One feature of this system is that only two comparatively simple charts are employed for visual control purposes. Another feature is that scheduling of the work, making out of the charts, etc., are carried out in the printing department under the direction of the overseer himself. In that particular plant this method appears to be more satisfactory than the centralized system of planning and control which is frequently employed.

In the order department of the plant a separate card is kept for each customer. Incoming orders are entered on the customers' cards, and then are checked for delivery from stock. If the goods have to be printed, a copy of the order is sent immediately to the printing department, regardless of the delivery date.

From the duplicate order cards which he receives, the overseer of printing draws up a Distribution Chart for each week. This chart (shown in Fig. 1) has squares for entering all pertinent data regarding each style and each ground color. Each of these squares is divided into three sections. Stock held over in the printing department from the previous week and additional stock received during the current week is entered in the lower left-hand section. Orders for goods to be printed are entered in the upper section. Goods transferred from stock to the bleach house or dyehouse are subtracted from stock and entered in the lower right-hand section. When these goods return from the dyehouse, they appear again on the chart as an increase in the stock of one of the colors. As goods are printed, the amount is subtracted from the orders shown in the upper section.

The chart shows also the quantity ordered of each style in all colors; the total quantity of each ground color (i.e., different styles which can be dyed together); and the total expected production for the week.

For illustrative purposes the chart has been partially filled in. At the beginning of the week there were on hand 220 pieces of gray goods of Style 1; orders were received for a total of 120 pieces; to cover these orders 140 pieces were sent to the dyehouse, leaving 80 pieces in stock after pieces covering all orders had been put in process. Stock on hand at the beginning of the week of Color 23, Style 1 was 10 pieces; orders were received for 40 pieces; 60 pieces were received from the dyehouse, making a total stock of 70 pieces; 40 pieces were delivered to the printing department, reducing the stock to 30 pieces; the 40 pieces were printed and delivered to the finishing department, leaving orders at 0. (If desired, entries can be made in yards, or thousands of yards, rather than in cuts or pieces.)

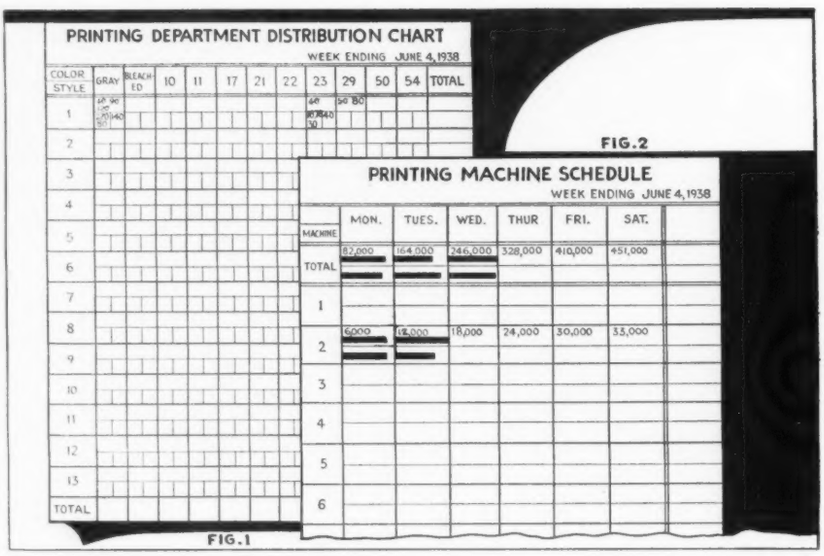
The next step is to make out a printing machine schedule as shown in Fig. 2. This type of Gannt chart greatly assists in planning the work for each machine in the department. In the upper left-hand corner of each square the total capacity of the machine as found by experience is entered in units of yards, thousands of yards, or pieces. These figures are cumulative for the week.

Orders which are assigned to a machine for a certain day are indicated by drawing a straight line across the upper half of the square. The distance this line extends indicates the ratio of yardage assigned to the total calculated capacity of the machine. Yardage actually printed is indicated by a straight line drawn across the lower half of the square. In that way it is possible to see at all times whether a machine is ahead or behind in its work.

The method of using the chart is shown by the following example: Machine 2 has an average capacity of 6,000 units per day. Orders equaling 5,000 units were assigned to the machine for Monday, and 6,000 for Tuesday. Actual production was 5,000 units on Monday, and 4,500 on Tuesday.

The total capacity of all machines averages 82,000 units per day. Planned production on Monday was 75,000 units; Tuesday, 60,000; Wednesday, 82,000. Actual production on Monday was 65,000 units; Tuesday, 70,000; Wednesday, 80,000 — which means that the total is nearly up to date.

This system makes it almost impossible to assign too much or too little work to a machine. It helps the printer to make deliveries promptly. If the total capacity of the department is greater than the orders assigned for printing during a given week, the chart shows whether it is best to shut down one or more machines, operate the department on short time, or run some of the orders which originally were scheduled to be printed the following week.



Cotton Mill Problems

Pertaining to carding, spinning, weaving, engineering discussed at four recent S.T.A. meetings

CARDING and spinning techniques; weave-room practices; and air-conditioning, lubrication, maintenance, and other engineering problems were thoroughly aired at meetings held recently by four divisions of the Southern Textile Association. Growing interest in the use of rayon staple in cotton mills was reflected in the discussion of this subject at two out of the four sessions. Lickerin-speeds, long-draft versus conventional-draft roving, prevention of reed marks in low-sley goods, and methods of reducing peak electrical demand to effect power savings were among the other phases of cotton-mill operation which were considered by the various divisions. The highlights of meetings are given below.

Joseph C. Cobb, general superintendent, Chiquola Mfg. Co., retiring chairman of South Carolina Division, S.T.A., who presided at Greenville meeting

South Carolina Division

Meets at Greenville

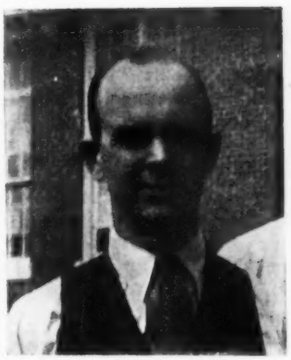
AT THE spring meeting of the South Carolina Division, held April 30 at Greenville, S. C., Joseph C. Cobb, general chairman, presided. Robert T. Stutts, superintendent of Woodside Cotton Mills Co., Simpsonville, S. C., led the carding session. Chairman Cobb was in charge of the spinning discussion.

Preceding the technical part of the meeting, H. H. Willis, dean of Clemson (S. C.) Textile School, made a brief address in which he outlined the training received by Clemson textile students.

Opening the carding discussion, Mr. Stutts asked for suggestions as to removing neps from cotton. W. E. Hammond, superintendent, Balfour (N. C.) Mills, recommended: (a) running the doffer faster, (b) setting closer, and (c) in general producing a lighter sliver. Oil drippings will cause neps, he said, but 0.3% oil spray does not affect it. Frank C. Lockman, superintendent, Monarch Mills, Lockhart, S. C., disagreed with the latter statement.

Blending reserve feeders definitely improve the quality of stock, according to several members. Arthur H. Cottingham, general manager, Victor-Monaghan Co., Greenville, said that all of his pickers are equipped with the device. It runs evener laps yard for yard, and picker men report losses of not more than one or two laps a week, he said. One of the outstanding features is the electrical control which eliminates human error. Permissible variation has been reduced.

Discussing the proper speed for lickerins, Gaston Gage, Clemson instructor, said that in his opinion the work on the card is done between the



Robert T. Stutts, superintendent Woodside Cotton Mills, who led the carding discussion at Greenville meeting

feed roll and the lickerin, between the lickerin and the cylinder, and between the feed roll and the flats. The amount of cotton going through from the rear is the determining factor as to the quality of the carding, not the amount that comes out the front. Mr. Lockman said that he once found that his lickerins were in bad condition by pulling off the belts and letting the lickerins "die." Result was cotton full of neps.

Opinion was divided as to the advisability of setting flats progressively. C. M. Padgett, overseer carding, Brandon Corp., Greenville, said that he sets the back flat at 0.012 in. and the others at 0.010 in. J. T. Bray, superintendent of Woodside Cotton Mills Co., Greenville, sets at 0.010 in. all the way through. N. G. Hardie, general superintendent Chadwick-Hoskins Co., Charlotte, said that the setting depends on the vibration of the room. He sets 0.012 at the back and 0.010 in. at the front.

Ray Swentenburg, superintendent, Ware Shoals (S. C.) Mfg. Co., reported results of a test comparing controlled-draft drawing with new four-delivery, four-roll drawing. Over a period of two months, the daily variation did not amount to 0.1% between the two. Ends down and break through the spinning room were almost identical, both being 30 to 40% better than the old drawing.

Several members complained that the collars on metallic drawing rolls on the front, second, and back lines wear faster than on the third line. Smith Crow, superintendent, Drayton Mills, Spartanburg, S. C., said that he eliminated such a situation by changing the large front top roll to one with a smaller diameter.

Chairman Cobb started the spinning discussion by asking reasons and cures for cockled filling on long-draft spinning. W. W. Cobb, superintendent, Norris Cotton Mills Co., Cateechee, S. C., said that it is due to improper settings. Mr. Lyons reported that hard ends which come through and groove the top roll can be eliminated by using a more resilient roll covering. He recommended cleaning the frame when new rolls are put on, once a year. Mr. Lockman said that long-draft roving should be cleaned every 2,000 hr. W. P. Leister, superintendent, Victor-Monaghan Co., Calhalla, S. C., suggested that rough aprons cause cockled yarn, as does grease on the top roll. Chairman Cobb added that one lever being higher than the other would cause trouble. With reference to the proper amount of humidity in the spinning room, W. H. Burn-

ham, engineer, Parks-Cramer Co., Charlotte, N. C., said that print-cloth or sheeting mills ordinarily carry 50 to 55% relative humidity and other mills from 60 to 65%. Pointing out that roving begins to mat up when there is free moisture in it, he said that distribution of the water particles is more important than the amount.

The members were next asked to give their experiences in changing from 7-in. to 8-in. bobbins on filling. W. W. Cobb changed from a 7⅜-in. bobbin to an 8-in. bobbin with good results. Spinners run the same number of sides, and doffing has been reduced. Mr. Lyons gets 30% more yarn on an 8-in. bobbin than on the 7-in. bobbin, and has a labor saving of about 15%. Mr. Crow, changing from a 6½-in. to a 7½-in. bobbin on fine counts, gets good results by lowering the roll so as to keep approximately the same distance between the top of the bobbin and the thread-board guide.

No one reported any specific differences in the running qualities of various kinds of rayon staple fiber. Mr. Crow said that he runs the same number of sides on spun rayon that he does on cotton of like counts. The same cleaning routine is followed.

Smith Crow, superintendent Drayton Mills, who took an active part in recent South Carolina meeting

A fair number of ends down per thousand spindles on 30s warp and 40s filling was agreed to be 30 for the warp and 40 to 45 for the filling.

Joe Lyons, assistant superintendent, Orr Cotton Mills, Anderson, S. C., was elected general chairman, succeeding Mr. Cobb.

Eastern Carolina Division

Gathers at Raleigh

PREPARATORY processes were considered at the spring meeting of the Eastern Carolina Division, held May 21, at the textile school of North Carolina State College, Raleigh, N. C. In the absence of Chairman J. V. McCombs, of Pilot Mills Co., J. L. James, superintendent of Erwin Cotton Mills No. 1, Durham, N. C., presided.

The first question was in reference to the length of time bleached raw-stock cotton should be aged and the best methods of ageing. J. C. Pirkle, superintendent of Durham Cotton Mfg. Co., reported that such stock should be aged for 48 hr., or longer. It should be blown into large bins with perforated or open sides and left so that the normal air and humidity can circulate through it. M. R. Harden, Erwin Cotton Mills, added that it helps to remove all the ties except one from the cotton and loosen the bagging, after which the bale is turned over and left to lie on the floor. Most of the members agreed that cotton should be aged regardless of bleaching treatment. A final treatment with some type of suphonated oil was said to help.

"Can sufficient cleaning equipment be installed in a cotton mill to give the same cleanness, evenness, and breaking strength that double carding gives?" was the next inquiry. V. E. McDowell, Roanoke Mills Co., reported that he thinks the main purpose of double carding is to remove neps. An elaborate opening and picking arrangement and slow carding should give good results in one operation, he said. There should be no necessity for double carding under such an arrangement if the cards are run slowly enough, he declared. A. L. Oldham, Erwin Cotton Mills Co., said that cards producing 8 or 9 lb. per hour should be stripped about every three hours. The brush should be used once a week.

Lickerin speed was the subject of the next discussion. G. M. Gurley, Rosemary Mfg. Co., Roanoke Rapids, N. C., said that if the lickerin speed is reduced and doffer speed is also reduced that this offsets any additional cleaning which might be expected from slower operation. He thinks that 375 to 400 r.p.m. is a good lickerin speed. D. F. Lanier, Oxford Cotton Mills, said that he is running his lickerin at 4.60 r.p.m. Another member volunteered that he speeded up his lickerin from 420 to 588 r.p.m. on filling and runs at 428 r.p.m. on warp. The yarn made at 588 r.p.m. shows a better break than similar yarns made at lower speeds, he asserted.

W. O. Carroll, Erwin Cotton Mills Co., No. 6, reported on the problem of sliver breaking and wrapping around the rolls of long-draft slubbers which causes the stud pins in the draft gears to break. He said that he has not had any trouble of this nature with one type of frames, but this has occurred on another type of frames at his plant. The first thing to do toward preventing such trouble is to check the pins and have them replaced if weak. Other factors which make operation difficult are knife-damaged steel rolls, too much oil in the saddles, static electricity in the fibers, too much humidity, dirty or burred aprons, etc. One of the most important phases of operating long-draft roving machinery is to see that the draft is in proper ratio, front and back. Mr. Oldham reported a total draft on a long-draft frame of 742, which is the manufacturer's recommendation. Having some trouble at first with lapping-up, he decreased the break draft from four to two teeth. This stopped the lapping-up.

J. C. Edwards, superintendent of Morgan Mills, Inc., who led the carding and spinning discussion at Piedmont Division meeting

Mr. Lanier declared that the use of a self-weighted middle roll on conventional-spinning, drafting 12.50 to 13, gives a better break than the regular roll. However, he does not recommend its use on lower drafts. The self-weighted rolls, he said, are suitable for making yarns from 6s to 100s. Mr. Burns asserted that in his opinion a different weight is needed for the lower and higher numbers. Several members reported good results as to break, ends down, and evenness where self-weighted rolls are employed.

Consensus was that relative humidity in the long-draft spinning room should be 55 to 60%.

The problem of securing a "balanced twist" in a two- (or more) ply-yarn that is run one-process on twisting was agreed to be difficult to solve. Mr. Lanier uses 4.50 as a multiplier in his spinning and 4.70 as a multiplier for ply yarn. George Gilliam, superintendent of Sterling Cotton Mills, Franklinton, N. C., uses 4.60 as a multiplier for the single yarn and

4.75 for the ply. Tape drive was said to promote evenness.

J. L. James was elected chairman for the next year. J. B. Batton, Sr., of Roanoke Rapids, was named vice-chairman, George Gilliam, of Franklinton, was made secretary, and W. H. Miley of Erwin, N. C., was elected to the executive committee to succeed Mr. James.

Piedmont Division

Assembles at Charlotte

GUEST speaker at the spring meeting of the Piedmont Division, held May 28, in Charlotte, N. C., was Dameron H. Williams, Gastonia cotton merchant, who discussed the present crop of staple cotton and described classing methods practiced by the more modern cotton shippers. Marshall Dilling, executive secretary of the association, presided as chairman.

J. C. Edwards, superintendent of Morgan Mills, Inc., Laurel Hill, N. C., led the carding and spinning session.

The first question dealt with preventing the lickerin on cards from snatching fibers from under the feed roll when running staple rayon. J. C. Pirkle, superintendent of Durham (N. C.) Cotton Mfg. Co., suggested having the feed plate long enough

L. M. Kincaid, master mechanic at Paw Creek plant of Kendall Co., who took part in divisional meeting of S.T.A. at Charlotte

for the laps to lie flat, making a lighter lap—not over 13 oz., repairing bearings on feed rolls, seeing that the flutes are clean, and putting the proper length of lip on the feed plate. The lickerin should be set 1⅛ in. from the bite of the feed roll on 1½-in. staple. Rayon can be run through a three-beater system at not over 800 r.p.m. J. L. Brannon, Camden, S. C., added that a satisfactory method of opening rayon packed in hard bales is to stick an air hose into the center of the bale and leave it until the staple fluffs. For less tightly packed staple, an ordinary opening hopper with twice the usual number of pins is satisfactory if speeded up. When running dyed stock, the feed roll has to be opened somewhat. A light sliver gives better breaking strength.

J. C. Inscoe, overseer of carding, Erwin Cotton Mills Co., Cooleemee, N. C., said that in making 21s single warp yarn from ⅞-in. cotton, 1.45 hank roving, he found it advisable to increase his twist multiple from 1.25 to 1.45 when changing to long-draft roving. Ends down and breaking strength were the same.

It was agreed that a variation of 15 to 20% might be expected in spinning warp and filling yarns from raw-stock dyed cotton, middling, ⅞ to 1⅛ in.

The best method to start spinning after the doff so as to insure a clean run-off at the twister, according to C. W. Alexander, is to have the doffers pull the traverse with the ring rail two-thirds of the distance from the bottom of the bobbin, and doff. The ring rail is then let up, and the frame started. The ring rail is then pulled back to the bottom and the machine run for about four winds to lock the yarn on the bottom of the bobbin. The traverse is finally let back to start building. Mr. Edwards added that most of the trouble comes from the operative not breaking the tail off before putting the bobbin in the shuttle.

With reference to wild yarn in spooling, Mr. Edwards said that a lot of this can be eliminated by keeping roving brushes in good condition and by setting the snick-plate leaders so that when the traveler comes around it does not open up the snick plate and let the yarn out.

Marshall Dilling, executive secretary of Southern Textile Association, who presided at Charlotte as chairman of Piedmont Division

A. W. Benoy, assistant manager and superintendent of Ella Mill, Shelby, N. C., was in charge of the weaving portion of the meeting.

The best method of running two-ply selvage ends on the slasher so as to prevent their becoming slack or tight, according to T. C. Pegram, superintendent of Erwin Cotton Mills, No. 3, Cooleemee, N. C., is to have the warper watch the beams and keep them level. When the selvage gets too tight another dent is skipped. Mr. Lockman disagreed to some extent on this practice, asserting that he does not put the selvage on the warper beam but runs it on the creel at the back of the slasher.

L. Jeff Davis, Erwin Cotton Mills, No. 3 said that filling jerk-backs on looms equipped with a feeler could be eliminated by having the thread cutter properly set and timed, and the shuttle properly grooved. A long quill can was agreed to be desirable provided the quills do not accumulate excessively.

Mr. Davis also reported on methods of preventing loomfixers from increasing power on looms. The power strap is set 7 to 7¼ in. from the top of the washer that goes over the heel board. Any time a strap becomes loose the loomfixer's attention is called to it. The lugs must be neither too high nor too low.

Reed marks can best be kept from low-sley goods, asserted M. W. Rogers, Jr., overseer of weaving, Chadwick Hoskins Co., No. 2, Charlotte, N. C., by running the warps slack and checking on the position of the lease rods.

Sam Snoddy, overseer of weaving and assistant superintendent, Entwistle Mfg. Co., No. 2, Rockingham, N. C., added that he raises the whip roll above the warp stop motion and lines the harness and stop motion with the breast beam. Mr. Lockman suggested that the let-off should be adjusted so that no more is let off than the loom takes with one pick. Too much twist in the yarn and harsh sizing will also cause reedy cloth.

A system of keeping records on shuttles was offered by Mr. Pegram. A sheet is kept in the supply room on which each shuttle issued is charged to the loom on which it is to be used. The date of issue is noted on the form and also written in the shuttle itself. This gives a double check on how long the shuttle lasts.

With reference to repairing loom parts, L. M. Kincaid, master mechanic, Kendall Co., Paw Creek, N. C., said that electric welding is useful and approximately 75% cheaper than gas welding on certain jobs, such as sand rolls. However,

gas welding is better for cast-iron.

Mr. Davis described a system of checking looms at his plant whereby a printed card with the various parts of the loom listed is checked by the fixer as the parts are inspected or fixed. Upon completion, the card is hung up, and the assistant overseer checks the loom against the card, following which it is turned in to the overseer's office where it may be again checked if desired. This means that both looms and loomfixers are under close scrutiny at all times.

B. M. Bowen, Salisbury Cotton Mill, was elected chairman, and M. T. Poovey, Rockingham, N. C., was named vice-chairman. Members elected to the executive committee were J. C. Edwards, W. P. Johnson, J. L. Brannon, R. B. Cooke, and A. W. Benoy.

Northern Master Mechanics

Convene at Greensboro

AIR conditioning, lubrication, maintenance, and other engineering problems were thrashed out at the spring meeting of the Northern Master Mechanics Division, held June 4 at Greensboro, N. C. W. H. Leathers, master mechanic, Consolidated Textile Corp., Lynchburg, Va., presided as chairman.

Agnew Bahnson, Jr., of Bahnson Co., Winston-Salem, N. C., spoke on air-conditioning. Early air-conditioning equipment, he said, consisted of troughs of water hung on the walls, sprinkling pots, and other means of securing surface evaporation. The next step was liberation of live steam into the air of the manufacturing rooms, but the disadvantage of raising the temperature of the room tended to offset the advantages. Then came the spray nozzle, which was a great improvement over the steam. From this spray nozzle evolved a self-contained machine in which the water is fed on the back of a revolving disk, broken up into a fine spray, and blown out into the room by means of a fan. The central-station system of cooling and moistening air for distribution through ducts came more recently. The final step, however, is the use of small conditioning units scattered about the room.

In manufacturing cotton, he said, humidities of at least 40% must be maintained to eliminate static electricity. In the picker room cotton should contain only 4½ to 5% moisture. In the card room relative humidity is kept at 45 to 55%, and temperature at 70 to 75° F. For drawing and roving, humidity should be 50 to 60%. For spinning, 55 to 60% is satisfactory for production, but 60 to 65% is better for regain. In weave rooms, the relative humidity ranges up to 80% to give the yarn added strength. Filling should be aged at 95% relative humidity and 100°F.

The first technical question dealt with reducing the peak electrical demand in order to effect power savings. E. E. Edmiston, master mechanic, Mooresville (N. C.) Cotton

E. E. Edmiston, master mechanic of Mooresville Cotton Mill, who took an active part in recent meeting of Master Mechanics Division, S.T.A.

Mill, said that he starts machinery at 6:30 a.m. and gradually builds up to a peak load about 7 a.m. L. W. Misenheimer, master mechanic, Southern Bleachery & Print Works, Inc., Taylors, S. C., said that he starts on Monday with about 20 lb. of steam an hour and gradually increases it to 80 or 90 lb. After 3 p.m. Mondays he has a constant load.

Mr. Edmiston reported that power consumption on looms can often be reduced by regulating the tension on the springs.

Concrete floors were claimed difficult to patch. A number of commercial compounds were agreed to be good if used according to instructions and in the absence of grease or acid. R. L. Yates, assistant superintendent, White Oak Cotton Mill, Greensboro, said that he cuts the hole entirely through the floor and makes it larger at the bottom. This tends to keep the patch in place. Mr. Misenheimer recommended washing the edges with acid and using a primer.

Nickel-iron castings were generally agreed to be worth the cost for certain uses. Mr. Edmiston said that he has used this alloy to build up loom gears. C. M. Pender, master mechanic, Marshall Field & Co., Spray, N. C., reported that brackets for wool cards made of nickel-iron casting solved the breakage problem for him. E. T. Davidson uses it in gear blanks. Further, nickel and manganese in his grate bars increased their life from 7 months to 12 to 18 months, using the same coal.

Several members reported that they case-harden loom motor pinions. Ordinary cold shafting is used in some instances, hardened with potassium cyanide and the usual heat treatment. O. L. Shumate said that a cast-iron friction gear will run 12 to 18 months on a case-hardened pinion. When the gear begins to wear, he turns the teeth off and replaces them with a steel band. A. C. Shelton, P. H. Hanes Co., Winston-Salem, N. C., said that he cuts gears on a shaping machine 150% faster than he can on a milling machine. Another member declared that he cuts the teeth off old gears and replaces them, at a cost of $1.50, with a steel ring made from a pattern. Four cap screws are used to fasten the rings on the old gear.

Consensus was that machinery lubrication should be under the direction of the master mechanic. For example, Mr. Edmiston believes that the responsibility should rest with the mechanic, as he has to make all repairs. On the other hand, Mr. Hayden said that at his plant the lubrication is handled by the room foreman with the exception of the motors, elevators, and pumps, which the mechanic looks after. Several members spoke highly of a visible oil system for motors.

Mr. Misenheimer advocated making an analysis of every carload of coal received by the mill.

Corrosion in humidification systems was said to be usually due to improper pH, or hydrogen-ion concentration, and the proper treatment of the water would usually eliminate the trouble. Addition of soda ash to the water supply will usually help where the pipes tend to pit.

Steam traps should be inspected at least every 30 days, in the opinion of most of the members. Inverted bucket traps were said to be very satisfactory in that they do not take air or bind.

L. W. Misenheimer, master mechanic of Southern Bleachery & Print Works, who also took an active part in the Greensboro meeting

Testing Thrown Silk

Extraction method appears to give more accurate results than boil-off

By L. A. BURNS

A KNITTER of nation-wide reputation who operates his own silk throwing plant called the writer's attention to several lots of silk that were running in his mill. The testing and grading department had found these lots identical in such qualities as uniformity of denier, freedom from major and minor defects, tensile strength, elasticity, etc. However, there was a decided difference in the raw boil-off of the lots. Sample after sample of one lot revealed a boil-off of 12 to 14%. Another lot showed a boil-off of 24%, or twice as high as the lot with the minimum boil-off.

It is easy to imagine the difficulty a commission throwster would have found himself in with his customer if he had processed these lots without having determined the raw boil-off. To say the least, the throwster would have some trouble in explaining to the knitter the reason for the difference in the boil-offs of the thrown silk. Yet there is no doubt that hundreds of bales of silk are processed each week for which the raw boil-off is not known.

The chief reason for making boil-offs is to prove that all of the silk sent to the throwster (less waste) has been returned to the owner. Recently the present writer has made an investigation to see whether or not some better test could be devised. The work has now gone far enough to warrant a preliminary report.

Addition Operation

In the search for a test which will give all of the information concerning a lot of silk revealed by a boil-off, one must keep in mind the fact that the soaking process is an addition operation in which the silk absorbs oils, alkalis, etc., from the soaking bath. The laboratory tests which appear to give the desired information are ether and alcohol extractions, plus a titration to determine either the alkali picked up by the silk or the amount remaining in the bath.

A number of trials indicated that after silk has been refluxed in a Soxhlet extractor for 3 hr. with petroleum ether, all mineral oil and all free or uncombined saponifiable oil are extracted; a further extraction for 5 to 6 hr. with 95% alcohol removes all soap, sulphonated oil, fatty alcohol sulphate, etc. With a 15-gram sample of silk, a 250-c.c. extractor will hold a sufficient amount of solvent for the extraction.

Results of boil-offs and extraction tests on seven lots of silk are shown in Table I. The figures in this table show that the totals of the alcohol and ether extractions come within the range of differences between the boil-off of raw Japan silk of hosiery-tram quality and the boil-off of thrown hosiery-tram yarns. In other words, if the figures in the Total Column are subtracted from those from the Boil-Off Column, the results correspond to raw silk boil-offs of 16.4 to 22.46%.

Table I. Results of boil-off and extraction tests

Lot No.	*Boil-off*	*Ether extraction*	*Alcohol ex.*	*Total*
1.....	28.6%	8.65%	0.88%	9.53%
2.....	26.7%	9.11%	1.19%	10.30%
3.....	27.9%	10.02%	1.35%	11.37%
4.....	30.1%	8.76%	1.15%	9.91%
5.....	29.5%	9.28%	0.79%	10.07%
6.....	31.6%	8.29%	0.85%	9.14%
7.....	29.9%	7.92%	1.84%	9.76%

Table II. Boil-offs of raw and soaked silk obtained by four different laboratories

Sample A

	Lab. No. 1	Lab. No. 2	Lab. No. 3	Lab. No. 4
Soaked .	25.06	23.49	31.02	25.85
Raw....	18.36	18.72	19.33	19.10
Take-up.	6.70	4.77	11.70	6.75

Sample B

	Lab. No. 1	Lab. No. 2	Lab. No. 3	Lab. No. 4
Soaked .	27.57	26.35	28.59	31.80
Raw....	20.8	20.98	21.14	21.40
Make-up.	6.77	5.37	7.45	10.40

Table III. Take-up of soaking agents as determined by extraction method

	Test 1	*Test 2*
Soaked Ether Extract.	8.22%	8.10%
Soaked Alcohol Extract.....	2.47%	1.41%
Soaked Total Extract.	10.69%	9.51%
Raw Ether Extract...	0.09%	0.09%
Raw Alcohol Extract.	0.79%	0.79%
Raw Total Extract...	0.88%	0.88%
Take-up.....	9.81%	8.63%

These results appeared to be encouraging, and led to further investigation. A lot of raw silk having a raw boil-off of 18.03% was thrown, and samples were then checked by the boil-off method and by the alcohol and ether extraction method with the following results:

Raw Boil-off.....	18.03%
Thrown Boil-off.....	27.50%
Ether Extract.....	5.99%
Alcohol Extract.....	3.95%
Total Extract.....	9.94%

Subtracting the raw boil-off from the thrown boil-off (27.50—18.03 = 9.47), we find the increase in weight to be 9.47% as determined by the boil-off method, whereas the increase as determined by the extraction method is 9.94%. However, the average ether and alcohol extraction of raw silk, as determined by tests on several lots is 0.84%. This must be subtracted from the figure obtained for soaked silk (9.94 — 0.84 = 9.1), giving a net gain due to soaking, as determined by the extraction method, of 9.1%.

Samples were taken of two lots of silk before and after soaking and were submitted to four testing laboratories of recognized standing. Boil-offs reported by these four laboratories are shown in Table II. It will be noted that there is a considerable difference in the results obtained by the several laboratories.

Next, two extraction tests were made on the same lot of silk, with the results shown in Table III. Here again, there is some difference in the results obtained from the two tests. However, the difference is smaller than are the differences obtained by the boil-off method. It appears, therefore, that the ether and alcohol extraction method equals or exceeds the boil-off method in accuracy. Also, it should make it possible to obtain the information wanted in less time. Alkali absorption can be determined easily by titrating samples of the bath before soaking is commenced and after the operation has been completed.

Reduce Your Press-Offs

In full-fashioned knitting, and save silk and money

By K. R. BARKER

WE ARE all aware of the fact that there is a reason for occasional press-offs on full-fashioned knitting machines. With the excellent throwing which we have in the industry today, one is quite safe in assuming that at least half of the trouble is caused by some rough or cut place on the machine, which the thread contacts while being fed to the needles or during the loop-forming motion. Of course it is understood that high-twist yarn must be properly conditioned, or it will snarl and press off without any provocation whatsoever. Also, the humidity of the knitting room is an important factor, and in this article it is taken for granted that these elements are under control. Some kind of a humidifying system is essential, and plants that do not have a fairly steady temperature and humidity, no doubt, experience more trouble with sleazy fabrics and press-offs than do the mills that have installed equipment to control the heat and humidity.

Machine Faults

In one mill machine faults accounted for 60% of all press-offs. This figure was arrived at by placing the same kind of silk on both a new machine and on a machine which had been operated for five years, and keeping a record of the press-offs on both machines. The results should be convincing enough to prove that the fault is not always in the silk. Press-offs not only retard production, but also diminish profits, and at times cause unnecessary needle breakage, which in itself is a costly item. Over a period of time a moving silk thread will cut the hardest steel. Sooner or later the parts of the machine over or through which the silk runs will become so badly worn that they will sever the yarn. The quicker these worn parts are replaced, the more nearly will the waste from press-offs be held to a minimum.

Usually, unless a certain head presses off continually, the knitter keeps running, and may lose two or three stockings a day. When there are two shifts on the same machine, this loss of time and silk is even more serious. With a little perseverence and no trouble to himself, the knitter can increase his production, with benefit to himself and the concern for which he works.

MACH. NO. 3 — PRESS - OFF RECORD — DATE-APRIL 4, 1938

HEAD NO.	WELT	BEFORE NARROWING	AFTER NARROWING	SPLICING	CARRIER NUMBER
1	II	III			3-4-5
2	I	I			
3	I	I	THL THL		3-2-3-4-4
					2-2-3-4-4
4	IIII II				
5		THL THL I		I-L	4-4-4-3-2
					4-4-4-2-3-4

Chart kept by knitter to assist him in finding cause of press-offs

The chart accompanying this article is for the use of the knitter. It should be explained to him carefully how he will gain in the end by using the chart. Then if he follows the procedure faithfully, he will not only save silk, but will save himself the trouble of excessive topping-on. If a mark is made in the proper column every time a press-off occurs, worn and cut parts are soon brought to light and can be replaced before too much waste due to press-offs has occurred.

To prove the advantage of the chart, observe that head No. 4 pressed off six times in the welt. Upon examination, the welt carrier on this head proved to be cut so that the thread broke two or three times during a double shift, which, when compared with the other heads, was excessive. If it had not been for the chart, this might have gone on for weeks, with loss of silk and time.

By use of a small, round dentist's mirror, one can at once detect those carriers which are badly cut. However, if there is no cut visible by this method, the thread should be grasped between the thumbs and forefingers above and below the tube. A slight pressure should be exerted and the thread drawn back and forth through the tube at different angles. Any cut in the tube will be detected.

Notice that head No. 5 pressed off eleven times before narrowing; it will be observed from the last column that carrier No. 4 (one of the ringless carriers) was the worst offender. Upon examination, this carrier proved to be in satisfactory condition, but it was discovered that there was a rough sinker which was cutting the thread. The reason that it pressed off more than the others was because the snapper tension was much tighter. This condition caused that particular thread to be held so tightly, as the needles were coming up, that the sinker cut it.

It will be observed that head No. 3 pressed off ten times after narrowing and that every carrier had nearly the same amount of press-offs checked against it. Examination showed the carriers to be in good shape, and, after the several sinkers and dividers had been replaced at the point where the carriers come to rest at the completion of their stroke, it was found necessary to install new knock-over bits.

At times replacement of many parts are necessary before a head will stop pressing off, at other times a slight machine adjustment has to be made. The main purpose of the chart is to expose within a short time those heads which are causing too much waste under ordinary operating conditions and to permit the condition to be remedied promptly.

Staple Cotton Fabrics

By JOHN HOYE

Fabric Technician with W. Harris Thurston, New York

This thirty-first installment of Mr. Hoye's series of articles on staple cotton fabrics, which began in the January, 1936 issue, discusses chenille yarn and fabrics.

CHENILLE

Chenille Yarn

CHENILLE, the French word for caterpillar, is the name given to a special yarn having a furry pile protruding at right angles from it. Chenille yarn is made by first weaving a fabric known as chenille weft fabric, which usually consists of unbleached two-ply cotton warp yarns (spaced in sections or groups) with special filling yarns. These filling yarns, usually ply, can be gray (unbleached) or can be solid color. Some of these fabrics are also woven on box looms, in which vari-colored filling yarns or two-tone mottled filling yarns are used (the latter a white yarn and colored yarn plied together).

Usually, four warp ends are used in each section or group. After the fabric is woven, it is cut lengthwise between each of these specially spaced groups of warp ends, each cutting producing a continuous chenille yarn. The warp ends hold tightly and prevent slippage of the heavy and bulky cut filling yarn, the ends of which stick out so as to form the furry pile characteristic of chenille yarn. The wider the spacing between the sections of warp ends, the longer or deeper the pile will be. The chenille yarn, if unbleached, is dyed in skein form, or it can be used (as the filling yarn) in gray cloths and then converted by piece dyeing or bleaching.

When chenille yarns composed of different solid colors or mottled effects throughout are used, many varieties of designs and colors are easily produced by simple weaves. The design is formed by the manner in which these vari-colored (filling) yarns run in the woven cloth.

Chenille Yarn Fabrics

Heavy and bulky chenille yarns are used largely as the filling only, in the manufacture of heavy reversible bath mats. Being a cut pile yarn, chenille gives an extreme softness and denseness of texture which it is not possible to attain with the regular terry loop pile. Sometimes chenille yarn is used in the borders of the better-type terry towels. Also, it is used in heavy drapery fabrics and sportswear fabrics.

Fine chenille yarn fabrics are made up into bathrobes, as well as face towels and wash cloths. Chenille yarns made of the finer, softer cottons are used in the more expensive imported hand, face, and bath towels and wash cloths, either in the border only or throughout the fabric.

In imported fine-yarn fabrics, the design or pattern usually is formed by the manner in which the colored filling (chenille) yarn is placed in the loom by the hand weaver.

An example of a woven fabric for the production of chenille yarns would be: 37 in. wide, 32 ends of 50s/2 warp yarn (woven in sections of 4 ends); 28 picks of 15/3 filling yarn (loosely plied).

A yarn referred to as 8-cut chenille would be cut from this, which means that eight chenille yarns are cut from each inch of cloth across the width. Each cut yarn has a continuous length.

Term Used Erroneously

Sometimes the term chenille is used in error. For instance, in the so-called chenille tufted bedspreads and some types of tufted bathroom rugs, seat covers, etc., no chenille yarns are used at all. In these spreads and rugs a special, heavy, soft yarn is used to make the floats or stitches. These floats are afterwards cut on the face side in order to form the tufts, which have a chenille-like softness and bulk, due to the type of yarn used.

(Note: In this installment the accompanying photographs show natural size inserts on magnified background, whereas in past installments the photographs showed the reverse.—Editor)

Callaway Mills

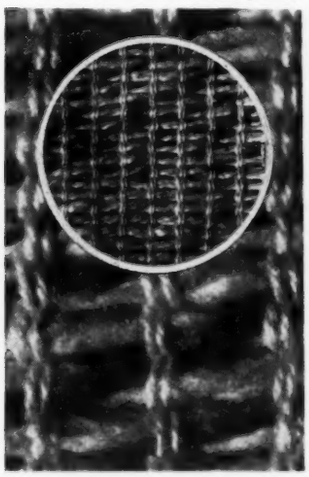


Fig. 1. Chenille weft fabric (insert shows natural size)

Callaway Mills

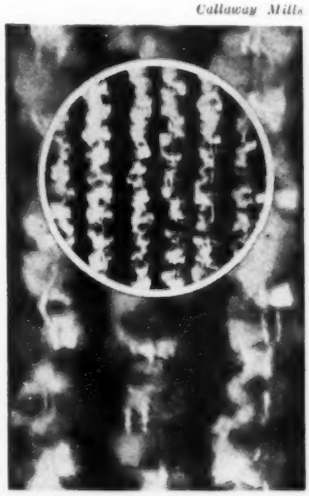


Fig. 2. Cut chenille yarn (insert shows natural size)

Callaway Mills

Fig. 3. Enlarged section of chenille bath mat (insert shows natural size)

NEW PUBLICATIONS

LATEX AND RUBBER DERIVATIVES AND THEIR INDUSTRIAL APPLICATIONS; Frederick Marchionna; Rubber Age, 250 West 57th St., New York; 2 vols., $20.

These two volumes comprise a bibliography of patents and published literature—June 1932 to January 1937—grouped under various headings, depending upon the method or process to which they pertain. In addition, author, subject, patent, and patentee indexes are included. These books form a supplement to the author's book, "Latex and Its Industrial Applications."

Among the subjects treated, the following are of particular interest to textile manufacturers: latex and its properties, conditioning of latex, compounding and compounded latex, rubber threads and filament manufacture, textile fabric manufacture, coating and impregnation, electrical insulation, floor and road coverings, composition and structure of the rubber hydrocarbon, oxidized rubber, hydrogenated rubber, halogenated rubber products, cyclized rubber, and condensation products of rubber.

COTTON USED IN TIRE FABRICS; U. S. Department of Agriculture, Washington, D. C.

Mimeographed pamphlet discussing developments affecting the use of cotton in tires; types of fabric used in modern tires; quantity of cotton consumed in making tires, 1924 to 1936; factors influencing quantity of cotton used; qualities and growths of cotton consumed in 1935-36; variations allowed by buyers in cotton purchased; factors affecting the use of different qualities of cotton; and use of rayon for making tire fabrics.

ORGANIZATION AND OPERATION OF THE ADVERTISING DEPARTMENT; Vol. III. Association of National Advertisers, Inc., New York.

Allyn B. McIntire, vice-president, Pepperell Mfg. Co., who is chairman of the committee in charge of study on organization and operation of the advertising department, of the Association of National Advertisers, Inc., outlines the aims of this work in an explanatory foreword to the present volume. Mr. McIntire points out that three firms in different fields were selected as case studies to give a broad picture. Jantzen Knitting Mills, the only textile firm in the three, occupies ten pages. The advertising set-up at Jantzen is described by chart and text. There is abundant information on inventories, budget control, schedules, budget breakdown, production of advertising material and supplies, how commitments are handled, etc. The material is carefully arranged and clearly presented. To advertising managers of textile mills, this study has definite interest and value.

SLEEP IN PEACE; by Phyllis Bentley; MacMillan Co., New York; $2.50.

Depicting a cycle in the textile trade in Yorkshire, showing that textile problems of the Victorian era and later are similar to those of today, the owners of the Blackshaw Mills—cloth manufacturing concern—know hard times, enjoy prosperity, are embittered by strikes, slumps and American tariffs.

The author shows clearly and interestingly the effect of the war upon the textile business with its boom propensities, and its dreadful aftermath of overproduction.

She tells a story entertainingly and well, and gives a history of British manufacturing problems which are not unlike American problems now in existence.

TRAVELERS' REST; by Ben Robertson; Cottonfield Publishers, Clemson, S. C., $2.50. Distributed by Baker & Taylor, New York.

A gripping story of the settlement of Keowee Valley, today one of the thriving textile centers of the South, is Travelers' Rest. Original in its scope to an extent which makes it stand out in the crowd of pioneer-settlement novels, it also has a beauty and rhythm which is refreshing.

The lusty passions of the Caldwells are pitched in many different keys, yet each rings true. The almost melodramatic succession of violence and sin and failure never seems to be forced, and through the entire novel there is the never-failing beauty of a dream representing more nearly the spirit of the early American pioneers than has yet been expressed by any of the many authors who have strived to capture it.

Showing the evolution from virgin forest to mill village, it explains the expression often heard that "southern mill workers represent purest American stock." For this reason, if for no other, this book should be enjoyed by those interested in industrial relations of today.

THE JACQUARD INDUSTRY; Herbert S. Swan; Industrial Commission, City of Paterson, N. J.

This 88-page booklet gives a factual description of the jacquard industry with particular attention to its position in Paterson, N. J.; describes the types of equipment installed; discusses labor, wages, and labor policies; comments on production and marketing problems, and suggests measures for improving competitive conditions in the industry.

THE BRITISH AND DOMINION TEXTILE INDUSTRY; John Worrall, Ltd., Oldham, England. 14/6.

This, the 48th edition, revised and brought up to date, incorporates Worrall's Textile Directory of Ireland, Scotland, and Wales, etc. It does not include Lancashire and Yorkshire; but gives details concerning spinners, weavers, bleachers, dyers, and finishers of silk, rayon, cotton, wool, linen, flax, hemp, and jute in the United Kingdom, Irish Free State, Australia, Canada, New Zealand, and Tasmania.

THE KNITTING TRADES DIRECTORY OF GREAT BRITAIN AND IRELAND. Published by Harlequin Press Co., Ltd., Manchester, Eng. Two shillings and six pence.

This standard British knitting trades directory appears in its 1937 edition. It lists firms by town classification in England, Ireland, Scotland, Wales; the buyers' guide covers yarns, fabrics, goods and machinery. The volume also includes a comprehensive technical section and a trade association directory.

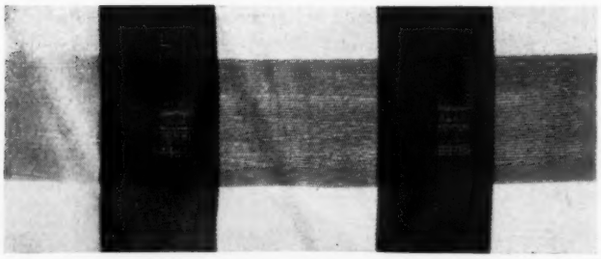
A.S.T.M. PROCEEDINGS, Vol. 37, 1937; American Society for Testing Materials, 260 South Broad St., Philadelphia.

Part I comprises committee reports presented at the 40th annual meeting of the Society, held June 28 to July 2, 1937, including report of Committee D-13 on Textile Materials new and revised tentative standards, including eight tentative methods of testing textile materials; and tentative revisions of standards, including seven textile testing methods. Part II consists of technical papers presented at the meeting.

Parisian Novelties

Brief descriptions of current fancies from French market

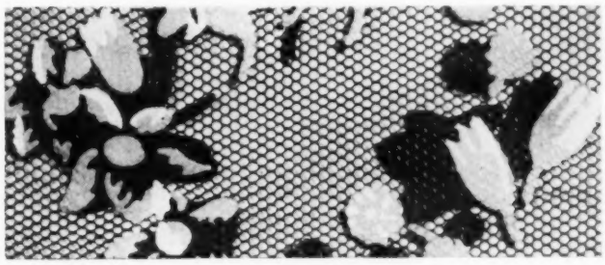
By RICHARD FLINT
Paris, France



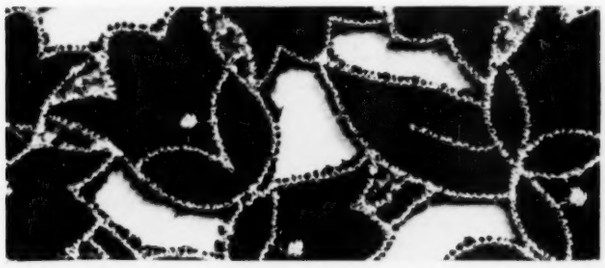
Checked taffeta of fine rayon yarns in both warp and filling, ornamented by extra warp spots of red and gold rayon. The floating warp yarn between the spots is sheared away on finishing. The fabric could be woven on a dobby check loom with boxes at one side. There are about 160 ends per inch and 80 picks per inch in the cloth.

Rayon dress fabric with warp of fairly soft spun and filling of hard spun yarn. The plain woven fabric is decorated by small luster spots of warp floats placed in sateen order, which requires a small jacquard head to produce. The zigzag diagonal printed design is of yellow, blue and navy. The cloth counts 168 ends and 96 picks.

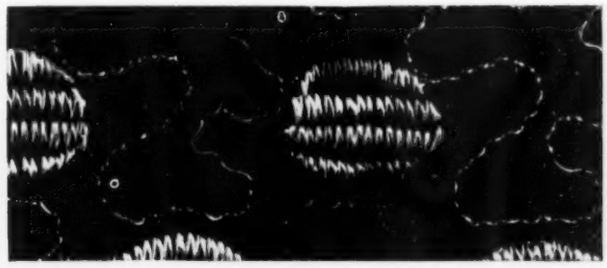
A reversible, double fabric. The dull portion is woven of fine hard-twisted rayon under strong tension; the lustrous portion is of coarser, low-twist rayon woven slack. A blistered effect results which is pressed flat. Warp alternates hard and soft twist, total of 72 ends per in. Filling is two picks hard, two picks soft, totaling 92 to inch.



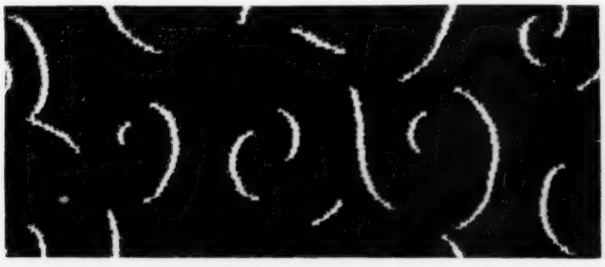
The base is tulle or net. It is piece-dyed to required shade and afterward decorated with a lacquered, stencil-painted design which sets quite firmly on the net. These designs may be of one or a number of colors, each suitably treated to prevent running. The colors are opaque and bright, contrasting well with the flimsy net ground.



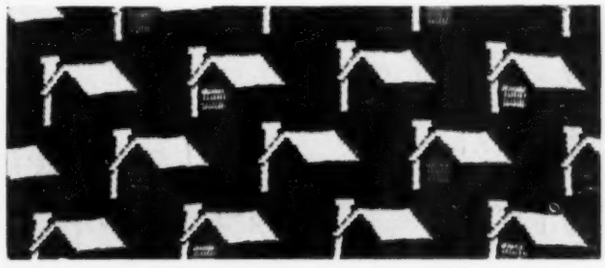
A woolen fabric counting 50 ends and 36 picks. The open work is produced by cutting out portions of the cloth and embroidering the edges with rayon. The plain weave used gives a firm structure to the fabric. The material is piece dyed before cutting. Effect is lace-like and fashionable; permits considerable variation.



Black georgette fabric made from fine, hard-twisted rayon yarns both warp and filling. A plain weave is used in conjunction with yarns of S- and Z-twist. The setting is 144 ends and 144 picks per inch. Fabric is woven gray and piece-dyed. On the material has been worked a heavy embroidery done in random-dyed silk yarn of many colors.



All-acetate double fabric with wool-like handle for short bolero jackets. One face is dark red or dark blue, other is ecru and white. Coarse ecru yarn weaves along with filling of the white fabric which is bound to the colored fabric by occasional white yarns lifted in twill order. Ecru filling lies between both fabrics where figure is formed. Warp, relatively fine, is reeded alternately color and white, 200 ends to inch. Filling, coarser, counts 160 with 64 each of color and white and 32 of ecru.



Fancy rayon crepe; a double cloth with jacquard roof-and-chimney motif in white. These sketchy houses have windows of yellow, green, red, and blue luster yarns. The white fabric is creped while the dark brown ground is flat. The extra warp threads weave plain with the white plain cloth when not required for figuring. There are 256 ends made up of 128 ends brown rayon, 128 white, with the extra 14 variously colored ends every half inch. The picks total 128, 64 of brown, and 64 of white.

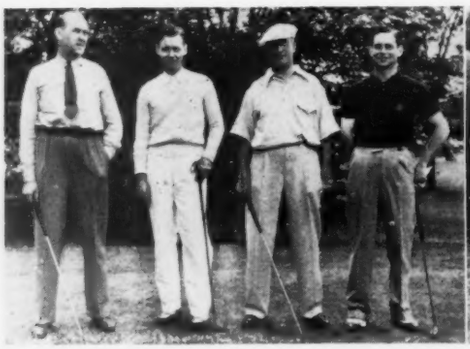
Chicago Yarn Men

Entertain at Barrington Hills Country Club

OVER a hundred hosiery and underwear manufacturing executives gathered on Thursday, June 16, at beautiful Barrington Hills Country Club, Barrington, Ill., for the 17th annual golf tournament given by the Chicago Yarn Men's Circle—the largest attendance ever recorded in the long history of the tournament.

Fred W. Frank, Dixie Mercerizing Co., president of the circle and toastmaster at the dinner, presented the annual cup for low net score, 86–19–67, to E. L. Olrich, Munsingwear, Inc., with a silver pitcher as a permanent trophy. Robert Boehmen, Rockford Mitten & Hosiery Co., with a low gross of 78, won an Argus camera, and seventeen other winners received handsome prizes. D. C. Woods, Rollins Hosiery Co., won a "Dopey" Snow White doll as consolation or booby prize, registering 129 sterling strokes.

Earl Constantine and E. L. Olrich spoke at the dinner with "Dick" Dickson on the receiving end. Dick led the singing as usual, and was later presented with an unique birthday present, a doll in a basinette. Fifteen of the foursomes are shown below.



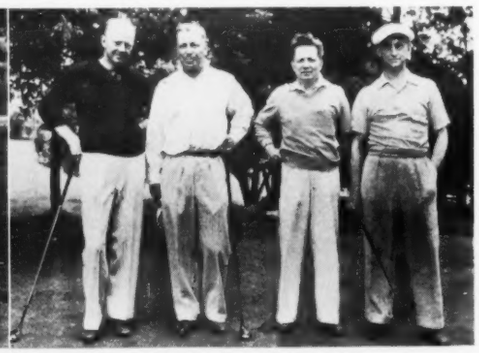
Wm. D. Benson, American Viscose Corp.
H. Pope, Jr., Bear Brand Hosiery Co.
H. S. Rubens, Rubens & Marble, Inc.
J. Kahn, Kahn & Feldman, Inc.

J. B. Frierson, Jr., Dixie Mercerizing Co.
J. B. Glasner, Rockford Mitten & Hos.
G. Frankel, Cooper Wells & Co.
G. M. Porges, Kaumagraph Co.

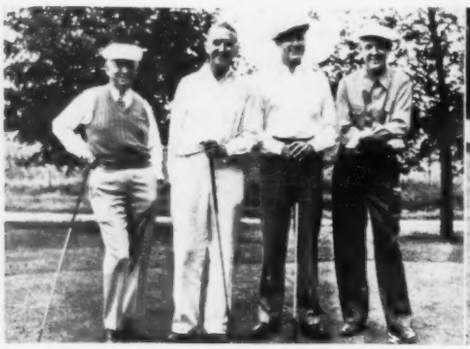
R. H. More, Oscar Heineman Corp.
J. H. Brine, Rollins Hosiery Mills
R. J. Mathewson, Standard-Coosa-Thatcher
W. W. Stegman, Wilson Brothers

F. W. Frank, Dixie Mercerizing Co.
Frank W. Boehmen, BZB Knitting Co.
E. L. O'rich, Munsingwear, Inc.
G. P. Clark, Columbia Narrow Fabric

C. F. Peffer, Cannon Mills
R. Y. Cooper, Coopers, Inc.
H. A. Dales, Hand Knit Hosiery Co.
F. J. Floden, Nelson Knitting Co.



O. J. Caron, Caron & Patterson
J. J. Kronenberg, Wayne Knitting
G. E. Rutledge, Vassar Co.
O. F. Thomas, Pennsylvania R. R.



A. G. Myers, Textiles, Inc.
G. S. Lance, Coopers, Inc.
W. Yates, Johnston Mills
G. F. Dickson, Minneapolis Knitting Works

A. H. Emerson, John F. Street Co.
W. P. Schofield, Rockford Mitten & Hosiery Co.
W. H. Ziock, Jr., Portage Hosiery Co.
H. W. Anderson, Fidelity Machine Co.

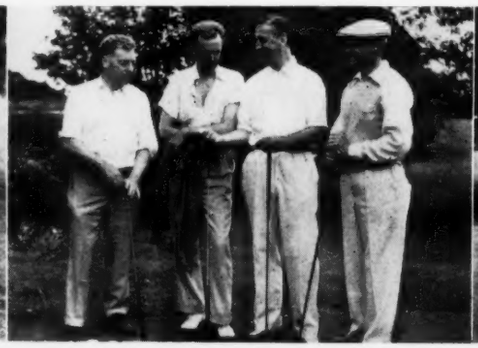
F. W. Kingsley, Hampton Co.
R. S. Williams, Burson Knitting Co.
C. F. Stickler, Superior, Inc.
Earl Constantine, Natl. Assn. Hosiery Mfrs.

E. L. Dale, Aberfoyle Mfg. Co.
R. A. Jaeger, Phoenix Hosiery Co.
D. F. Byrnes, Bradley Knitting Co.
E. C. Hinchliff, Burson Knitting Co.

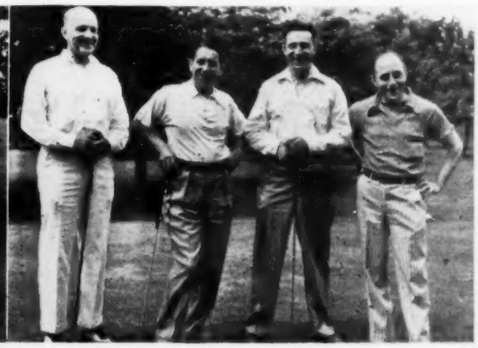
C. M. Patterson, Caron & Patterson
R. E. Chesebro, Hand Knit Hosiery Co.
W. A. Hendrickson, Bradley Knitting
E. F. Kingman, Rockford Mitten & Hos.

D. G. Brewster, Oscar Heineman Corp.
R. Carley, Phoenix Hosiery Co.
P. H. Thomson, Textiles, Inc.
Edward Eisner, Forest City Knitting

O. G. Starke, Holeproof Hosiery Co.
Don Bain, Wilson Brothers
N. F. Lahr, Cooper Wells & Co.



J. A. Holt, Aberfoyle Mfg. Co.
R. Hinchliff, Burson Knitting Co.
J. R. McVoy, Allen A Co.
R. A. Smith, Wilson Bros.



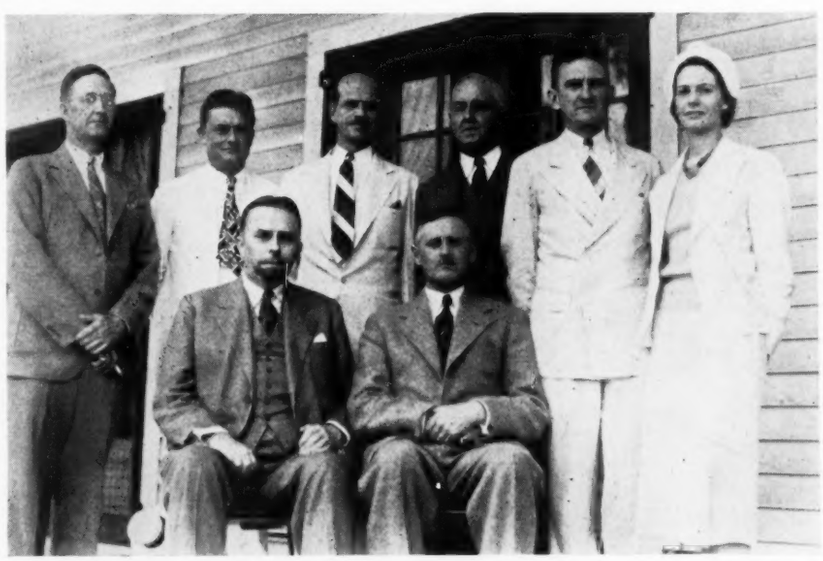
M. Henderson, Standard-Coosa-Thatcher
L. Frankel, Cooper Wells & Co.
W. C. Donovan, Wilson Brothers
H. Pollak, Phoenix Hosiery Co.

Southern Hospitality

Fitting climax for British delegates' visit

THE American visit of the two delegates of the Textile Institute, Manchester, England, came to a close in a blaze of southern hospitality June 8 and 9. J. R. S. Goodall, chairman of the Diplomas Committee, visited plants in North and South Carolina, and was the guest at a luncheon given by the Southern Combed Yarn Spinners Association, Gastonia, N. C. Frank Nasmith, president of the Institute, was forced to return to England prior to the southern meeting.

R. D. Hall, president of the combed yarn association, presided at the luncheon and called upon W. M. McLaurine, secretary of the American Cotton Manufacturers Association, to present Mr. Goodall and the two members of the committee who accompanied Mr. Goodall on his trip South —Dr. Harold De Witt Smith, of A. M. Tenney Associates, and Douglas G. Woolf, editor of TEXTILE WORLD. Arrangements for the lunch were in charge of Mildred G. Barnwell, executive secretary of the Southern Combed Yarn Spinners Association.



At the Gastonia (N. C.) luncheon to the British delegate: Seated: Dr. Harold De Witt Smith, of A. M. Tenney Associates, member of committee in charge of entertaining the delegates; J. R. S. Goodall, chairman, diplomas committee, Textile Institute, Manchester, England. Standing: Chester Eddy, Renfrew Bleachery; Dr. R. E. Rupp, chairman, Piedmont Division, American Society of Textile Chemists and Colorists; Douglas G. Woolf, editor, TEXTILE WORLD, another member of the committee; W. M. McLaurine, secretary, American Cotton Manufacturers' Association; R. D. Hall, president, and Mildred G. Barnwell, executive secretary, of Southern Combed Yarn Spinners' Association

Chattanooga Textile Group

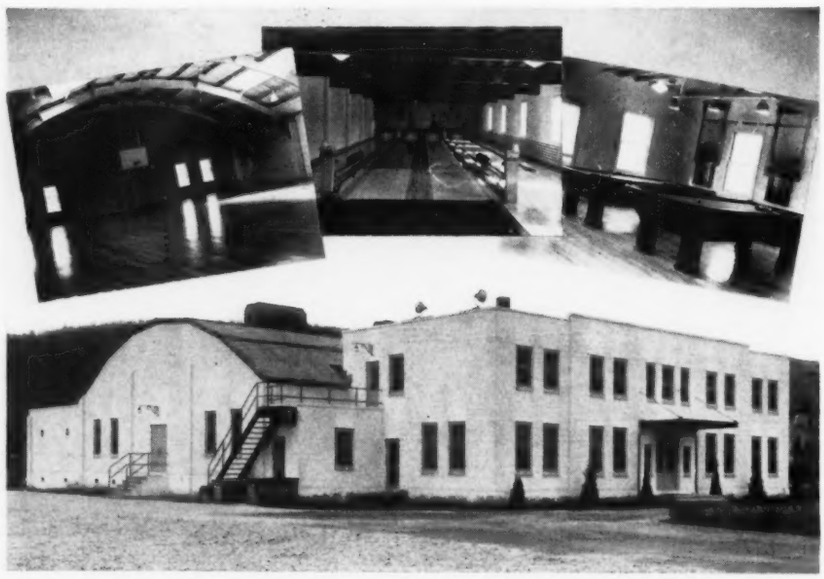
Holds Annual Festivities

THE 13th annual spring golf tournament and outing of the Chattanooga Textile Group was held at Lookout Mountain (Tennessee) Hotel, May 26 and 27. Golf, skeet shooting and other sports held the interest of the 200 guests. At the banquet Friday evening, prizes were awarded to the successful contestants. Garrett Johnston, president of Grayville (Tenn.) Hosiery Mills, took top honors. Other winners were Bill McAllester of Chattanooga, John Fowler of Cartersville, Ga., Jeff Gilreath of Chattanooga, Nester Groteluechen of Clinton, Tenn., Joe Callicutt of Nashville, (low gross), Fred Robinson of Dayton, Tenn., Bob Shepard of Griffin, Ga., and Gene Shea of Acworth, Ga.

1. Geo. West, Chattanooga; Ed. McMillan, Rossville, Ga.; G. M. Porges, N. Y.; Dave Blevins, Chattanooga.
2. Dick Bridenbach, Royerstord, Pa.; Robert Baker, Greensboro; Harry Horrocks, Philadelphia.
3. Tom Yates, Flinstone, Ga.; Moore Patten, Lafayette, Ga.; K. Durham, Chattanooga, Tenn.; J. Dabbs, Jr., Chattanooga.
4. O. H. Pons, Valdese, N. C.; R. W. Weaver, Greensboro, N. C.; A. F. Garou, Valdese, N. C.
5. W. L. Jackson, Chattanooga; C. Carvin, New York; G. Rounds, Charlotte.
6. S. L. Lewis, Stonington, Conn.; Fred Sails, Charlotte, N. C.

Du Pont's New Recreation Building

THE RAYON Department of E. I. du Pont de Nemours & Co. opened the new Employees' Recreational Building at its acetate plant at Waynesboro, Va., with appropriate festivities, April 1 to 3. The building is operated by the du Pont Employees' Recreational Association, active membership in which is open to all du Pont employees at $3.60 a year. Costing $75,000, the structure is of modern steel and cinder block construction, 117 by 100 ft., with two stories in front, the high auditorium-gymnasium, including courts for basketball and other sports, and the one-story bowling alley and billiard room at the rear. On the lower floor is the lounge and lobby, and the manager's office. Above are locker rooms, showers, and conference room.



Du Pont Recreational Building at Waynesboro, Va., with views of auditorium gymnasium, bowling alleys and billiard room

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Softer, smoother tops... thoroughly scoured and free from metallic and lime soap...result when **GARDINOL** is used in the processing. Alkalinity may be eliminated—and since the tops can be back-washed directly after dyeing, time and money are saved and production is speeded up. **GARDINOL** has no felting action on the fibers, and when used in the scouring and dyeing it helps produce evenly dyed, brighter colors. Ask a representative to show you where **GARDINOL** can do the most efficient job for you without increasing your production costs.

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Available in flake and paste form
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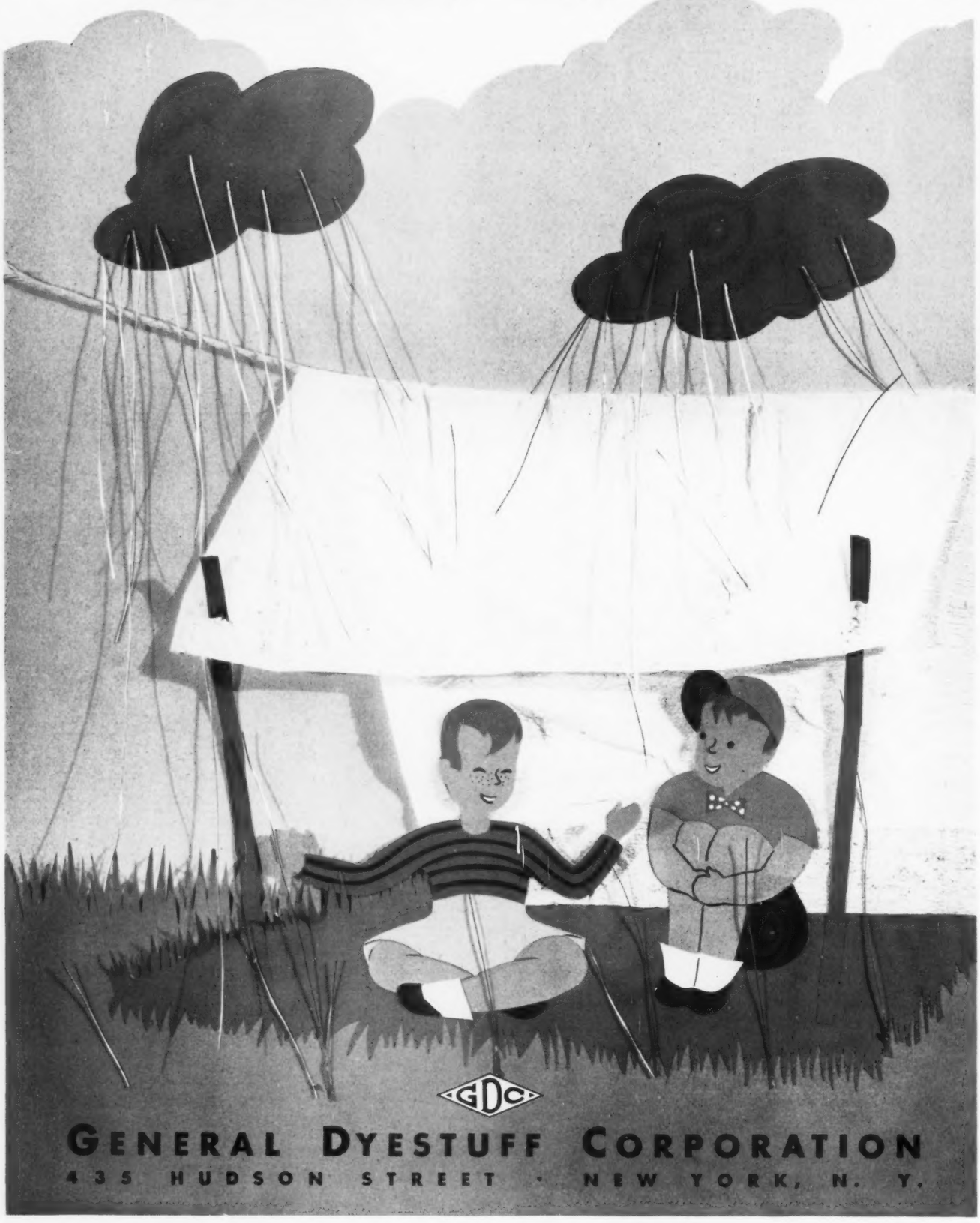
SALES AGENTS: Procter & Gamble, Cincinnati, Ohio · National Aniline & Chemical Co., Inc., N. Y. C.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Delaware

RAMASIT

WATERPROOFS

WITHOUT IMPARTING A HARSH FEEL



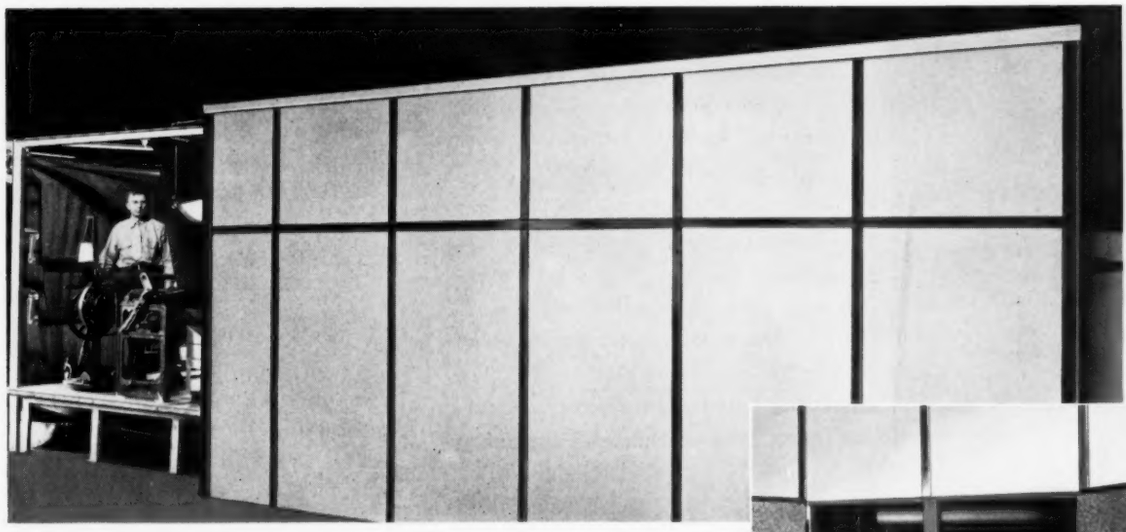
GDC

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET · NEW YORK, N. Y.

THIS *New* CONDITIONER

DELIVERS CLOTH AT 30 YARDS PER MINUTE WITH GUARANTEED UNIFORM REGAIN



THE new Hunter Brilsonair Cloth Conditioner, embodying a totally new principle of restoring natural moisture to cloth after finishing, is setting new records for evenness and uniformity, flexibility and production. For example:—

One unit occupying less than 35 feet of floor space, installed in a Massachusetts mill, is conditioning worsted fabrics at 30 yards per minute with absolutely uniform regain and improved finish. In another New England mill, a smaller Conditioner gives comparable results at 25 yards per minute on fabrics ranging from 11 to 32 ounces. Furthermore, it is producing the desired regain within unvarying limits.

The Conditioner comes complete with air conditioning unit, the necessary motors, fans, heating coils, housing and control instruments. You need only wire the motors and bring your steam and water lines to the Conditioner, and you are ready to run.

Any mill man interested in guaranteed evenness of regain at high speeds, reduction of off-shade goods, flexibility and uniformity in this important new field, is invited to mail the coupon.

NOTE: Hunter Brilsonair Conditioning and Drying Systems, designed, manufactured and sold jointly by the James Hunter Machine Company of North Adams, Mass., and the Bridges-Wilson Corporation of Boston, Mass. For complete details on room, yarn or stock conditioning, write either company.

JAMES HUNTER MACHINE COMPANY

NORTH ADAMS, MASS.

Southern Agents: Carolina Specialty Co. Charlotte, N. C. *Western Representative:* E. G. Paules, 343 Bendix Bldg. 1206 Maple St., Los Angeles, Cal. *Canadian Agents:* Colwool Accessories Limited, 126 Wellington St., West, Toronto.

JAMES HUNTER MACHINE CO.
North Adams, Mass.

Please send full details on the Hunter Brilsonair Cloth Conditioner.

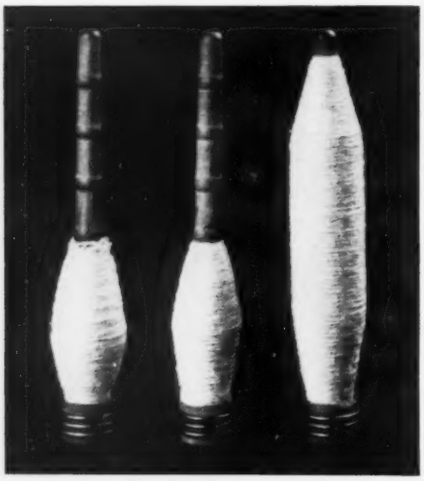
Name .....

Mill .....

Address .....

GETTING THE MOST FROM WINDING

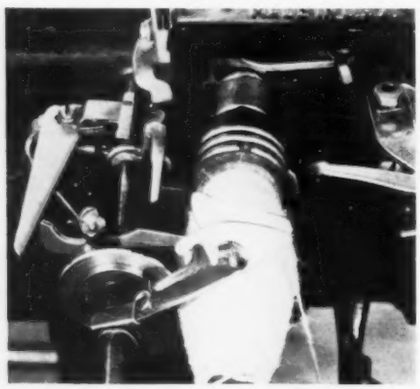
Information about winding designed to show improvements in winding equipment and new ideas in the winding operation



PROPER SETTING OF COP FORMER (No. 90 Winder)

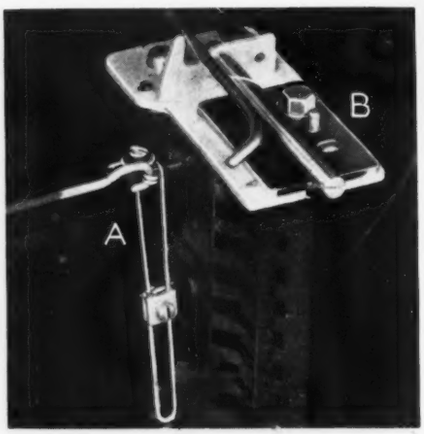
The illustration shows a comparison of two partly-wound bobbins of woolen yarn, the one on the left having a soft nose, the one in the middle having the proper build. The completely-wound bobbin on the right shows clearly that the taper at both ends should be the same for perfection.

This trouble at the nose is caused by improper positioning of the cop former as shown below; proper care in positioning the cop former in order to build the same length of taper at both ends, will eliminate the trouble. For silk and rayon, the cop former must also be set this way to avoid soft noses or irregular shapes.



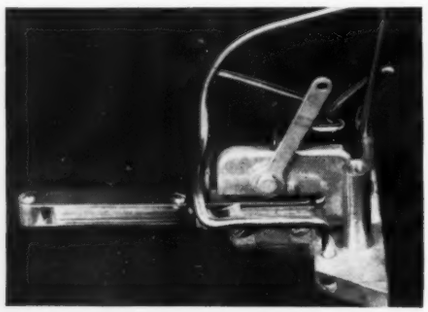
ANTIWEAR TENSION CONTROL and PRECISION CLEANER (No. 50 Winder)

The Antiwear Tension Control has been developed for mills winding silk or rayon. Installed (A) between the tension lever connecting rod and the movable half of the Antiwear Tension, it absorbs vibration caused by plucks when winding over the heads of spools or from other causes. The adjustment is moved down for winding fine deniers with light tension or up for heavier deniers with more tension. The chart shows the reason for the improvement in winding which has been noted by mills which have installed this device.



Recorded tensometer reading for silk with and without Antiwear Tension Control

The new Precision Cleaner (B) offers the advantage of speed of setting together with accuracy. A single movement of the special wrench loosens the locking screw and lifts the movable blade. With the thickness gauge inserted, the blade is released, and a spring fixes it in position. Continuing to turn the wrench locks the setting, which is uniform with the other spindles. No "feeling" is necessary — only one screw to loosen and lock — and the blades themselves are not taken apart. (Patent applied for.)



The Precision Slub Catcher for the Roto-Coner operates with the same principle as the Precision Cleaner for the No. 50 Winder

CAM ROLLS for LEESONA WINDERS

All our cam rolls are made by precision methods out of the best of steel and using a new development for high surface hardening. Let's look at the results: The new Universal processed cam rolls taken out of mills operating on 2 shifts for 10 months showed less than .002″ wear; cam rolls made by the then standard methods showed more than .015″ wear.

The reason for our taking pains with a part that seems relatively unimportant is the fact that a poorly made cam roll will wear out faster and may damage the cam that costs many times more than the cam roll.

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

THE OVERSEERS' CORNER

Personnel Departments

"WHY so glum, Bill?" inquired Pete, chancing in the former's office.

Before answering Bill let fly viciously at his private cuspidor.

"More new-fangled ideas!" he exploded. "It's getting so a man may expect anything when he goes to his office in the mornings. Now it's a personnel department!"

"What's wrong with that?" asked Pete. "All the big mills are setting them up these days. I think it's a good idea."

"A good idea! Why I've been hiring and firing men for 30 years, and now they let a smart young college man do it for me. What does he know about the mill business anyway?"

"Wait a minute, Bill," admonished Pete, "You haven't even tried to find out anything about the matter. The personnel or employment director is not going to take any of your authority away. His job is to keep stray applicants out of the mill. He interviews them and, if they are mentally and physically able to work here, lists them until such a time as you and the other overseers need more help. The overseer requisitions such help as he needs and may reject any he wishes."

"What about firing?" asked Bill, his interest awakening somewhat.

"You will do that too, just as in the past. The only difference is that the personnel director interviews the man before he leaves in order to close the records. You know records are mighty important these days with the Government sticking its nose in everything."

"Well, that all sounds mighty fine," said Bill relapsing into his original defiant attitude, "but I still don't like it. I want to see the face of every man who applies for work in my department. Otherwise the personnel director may turn down some of the finest workers in the world for theoretical reasons and list some of the worst."

Are personnel or employment departments helpful to the overseer or necessary for textile mills?

Letters from Readers

Minimum Wage Penalizes Efficiency

Editor, Overseers' Corner:

As a Nation and a people we swing from one extreme to another. Forty years ago, the help in cotton mills actually worked from one-third to one-half time. In the summer, the doffers spent over half of their time playing ball, and in the winter were a nuisance in the boiler room. The help that was running machinery worked just about one-half time. Today at some plants it is work at a high tension all the time. In all our strenuous games, they have rest periods.

We seem to have forgotten that when God created man, He did not create them with equal ability. To some He gave one, to some two, and to some five talents. We older men in the game know that our help is not equal in ability. One man runs 30 to 40 looms with just as much ease as another runs 20 to 30, on the same class of work. One speeder hand runs three frames with as much ease as another runs two, on the same class of work and so on.

With the minimum wage, it seems to the writer, there has been too much of a tendency with some of our mills to adjust the wages of the best help too close to the minimum. I feel that Government regulation is principally to blame for this. While it might be hard to do, we certainly should not penalize the man with ability to help the inefficient man.

We should do a little thinking as we go along, to see where this policy is going to lead us.

—S. S. R.
(Ontario, Canada)

Industry Built Through Ambition

Editor, Overseers' Corner:

Pete and Bill's dialogue, "Ambition vs. Complacency," was very interesting and deserves more comment. Ambitious employees are the life blood of any industry or organization. All industrial progress is due directly or indirectly to some ambitious individual who was not quite satisfied with ordinary results —that room for improvement attitude. For example, dissatisfaction with the hand loom led to the invention of the power loom. Where would we be if every one connected with the textile industry had been complacent—satisfied to let well enough alone?

Show me a department head who prefers a complacent employee to an ambitious one, a boss who ignores or resents a suggestion from a subordinate, and I will show you a small, narrow, and incompetent man who is in a rut. If an ambitious employee worries his boss, it is a safe bet that the boss is not on his toes, he feels his own weakness, and is afraid the employee will "show him up." Another sign of a weak overseer is the kind that won't talk shop—backs away from you when asked a question about their job.

Give me the ambitious employee; the "old shoe" kind are of little worth.

—J. W. H.
(North Carolina)

"Develop John Smith," Advises Nabors

Editor, Overeers' Corner:

I am of the same opinion of Pete in regard to young John Smith of their article, "Ambition vs. Complacency," in the May issue of the TEXTILE WORLD. I believe in giving young fellows an opportunity to develop themselves for better positions, but at the same time I do not believe in rushing them into a responsibility for which they are not prepared.

I don't think Bill conceived the significance of Pete's remarks about

***CONTRIBUTIONS** to "The Overseers' Corner" are paid for without regard to length. We will use letters discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute kinks or practical helps will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. If these pages interest you — contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.*

THE OVERSEERS' CORNER

John Smith's personality and popularity and family. In his own mind he is convinced that Smith is capable of advancing himself; also, looking into the future he sees Smith as an asset to his department as well as to the company. A good mixer, such as young Smith must be as one of the most popular men in the community, is an asset to any overseer if he can develop him into a position on his personal staff of section men and second hands. A young man with a family, such as Smith, is supposedy settled and sober; therefore, he is in position to set an example for other employees. He should be interested in advancing for his family's sake. Home study courses, trade journals, text books, etc., would help him.

Considering the changing conditions of textiles at the present, Bill's attitude toward his employees is rather like the conditions—unstable. Training a man for a lifetime position on one job would take a lot of training if his concern is keeping up with the modern trend of styles, methods, and machinery. I can't imagine anyone with Bill's responsibility wanting to restrain his employee's ambition to complacency.

—J. W. NABORS
(*Scottdale, Ga.*)

The Trouble Maker

Editor, Overseers' Corner:

A contentious belly-acher, chronic critic, or petulant fault-finder is about as well liked as a wet dog at a lawn party. These fellows are continuously keeping someone irritable or dissatisfied, and contribute to a torn-up organization.

A rigid disciplinarian is the only person who can deal with these people successfully. The best method is a lay-off until they are able to come to the same mark with the other employees and keep quiet, or to rid the organization of them entirely. Tact is of little benefit in their cases as they seem determined to have their way or ruin the spirit of every one else. It is strange to note how many men develop this trait, especially after getting into supervisory positions. They are continuously finding fault with their colleagues and accusing them of not cooperating with them, but when the truth is revealed those who are doing the accusing are those who are lagging in cooperation.

A chronic fault finder can be responsible for the most miserable set of help that ever existed. And in this day of expert and unsolicited critics it seems to me that the sooner an organization is rid of such characters the better off it will be. These fault finders and critics, belly-achers too, are the dissenting factors that hold down production and create a high labor turnover which are unprofitable to the company.

—LAMAR FOGLE
(*South Carolina*)

Agrees With Pete

Editor, Overseers' Corner:

I am glad to see Pete and Bill back with one of their arguments. This time I agree with Pete. I would not want a department made up of men who are perfectly contented with their present jobs. On the other hand, I would not want them to stand around and dream of what all they would do if they were overseer or superintendent, but I do like to see the men show some ambition. In order to encourage this ambition in them we urge them to attend the evening textile classes and give them every opportunity to learn the various jobs in the department. We try to promote those who merit promotion, and if we do not have a place open when a man is ready for a better job and if something is open in another department we are glad to recommend our man for the place.

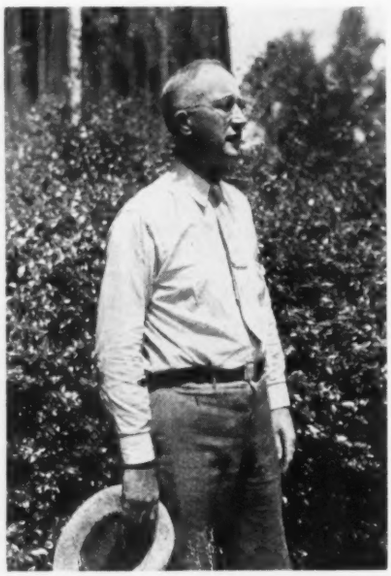
—L. P.
(*Alabama*)

Overseers Practical Helps

Gravity Tensions for Full-Fashioned Machines

In the knitting of rayon yarns which are best knit dry, or lisle thread—which some prefer to knit dry, the writer has found it most satisfactory to use all-metal tensions instead of felt tensions, since the latter require frequent readjustment because they wear rapidly, and often cause press-offs. At least one large manufacturer of knitting equipment and supplies makes an excellent disk tension for this purpose, which can easily be weighted with small washers to obtain the amount of tension desired.

When extra-light metal tensions are

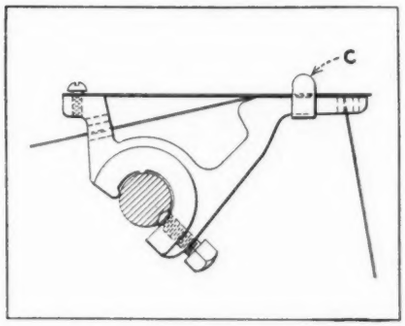


T. E. ("Pacifier") Ross, for many years outside overseer, Brandon Corp., Greenville, S. C., who is the retiring president of the Greenville Textile Club. His early home was at Piedmont, S. C. Today, he is very active in the civic and religious life of the Parker District. This is really a picture of Mr. Ross, as last month this caption was appended to the photo of Mr. Jackson.

J. A. Jackson, probably the industry's oldest cloth-room overseer in point of service, since he has held that office with various mills for 50 of his 68 years. He is with Brandon Corp., Greenville, S. C. In last month's issue this picture was incorrectly identified as being Mr. Ross. We are privileged to publish pictures of these two men and to correct last month's error.

THE OVERSEERS' CORNER

desired, as in the knitting of fine worsted or other similar yarns, they can easily be made from common snappers by loosening the screws a little and bending the snapper springs slightly, so they will lie on the yarns, as shown in the accompanying sketch. Some snappers have but one screw at the rear end of the springs; these will require a thin piece of metal, bent and soldered to the casting as shown at *C*, to keep the snapper spring from swinging out of place. Snapper springs can be shortened at the front end until the maximum weight desired is obtained; then, by turning the rod on which the series of tensions is mounted to bring the tension springs or weights toward a vertical position, tension on yarns



Gravity tension for full-fashioned machines

may be decreased to the amount desired at any particular time. The rod on which the tensions are mounted may then be locked, at one of its bearings, with a setscrew.

Snapper or gravity tensions should be located so as to keep the yarn as straight as possible; if they are turned far toward the vertical position, they should have hardened eyes soldered on at the front end of the castings.

WALTER A. SIMOND
New Hampshire

Mixing Light-Gray Worsted

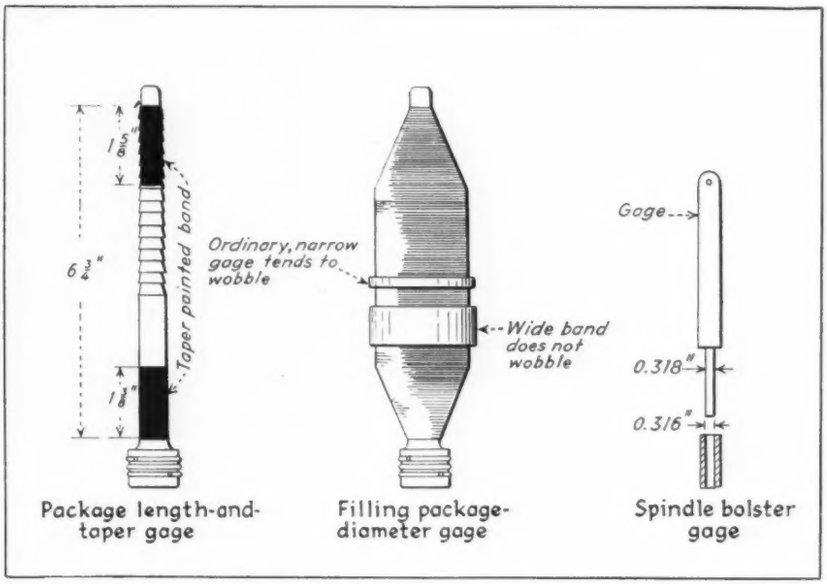
In the production of worsted yarns of very light shades, a firm on which I call regularly was in great difficulty. The trouble was streakiness. The mill wished to produce a complete range of light grays for the hosiery trade (50s quality top, spinning 1/24s yarns). Great care was taken to insure thorough mixing, but the trouble persisted. Melangeing was tried and found to be completely successful, but this firm did not wish to install it, as the process is comparatively costly. Several experiments were made with the lightest gray (1¼ lb. black to 98¾ lb. white); finally the 1¼ lb. of black was tried in a 58s quality (with the same 50s quality white) and the results were highly satisfactory.

The reason for this is thought to be that the increased number of finer fibers spreads better and allows more uniform distribution. The increased cost of the better-quality top is negligible, as it is used in small quantities only.

This firm has extended the principle to all its light shades with satisfying results.

Another useful tip for this trade, particularly where yellowish cross-bred tops of a low quality are being used to keep prices low, is to bleach the white tops. A superior yarn results, and the price factor is met.

G. D. H.
Yorkshire, England



Three gages for spinning-room overseers

Spinning Room Aids

The progressive spinning-room overseer is constantly developing gadgets which help him to do a better job. On a recent field trip, TEXTILE WORLD's roving reporter noted three devices of interest which have been used successfully for a long time by the overseer of spinning in one of the larger southern mills.

The first is a master bobbin used to gage the size and build of warp yarn. This consists of an ordinary bobbin on which have been laid out the correct distances for a perfect package of the size and type desired. In this instance, over-all lines 6¾ in. apart are painted on the bobbin to indicate the length of the package. Then, brightly colored bands are painted inside each end line to indicate the desired amount of taper, 1⅝ in. and 1⅜ in., respectively. In order to check the work of a spinner, it is a simple matter to place the master bobbin alongside a bobbin on the frame and determine whether or not the length and taper of the package are correct. The overseer keeps one of these in his pocket all the time, but he also furnishes duplicates to his second hand and section men in order to eliminate guesswork on their part.

Diameter of the filling package is gaged in many mills by slipping over the full bobbin a metal ring of the desired size. It is advisable to use a comparatively wide band for this purpose, as the narrow ring tends to wobble slightly and does not cover enough surface to be entirely accurate.

In checking frames for the purpose of overhauling spindle bolsters, a piece of metal with a diameter the slightest bit larger than the desired bolster size is employed as a gage. If this gage slips easily into the bolster, the bolster is worn to the point that it needs overhauling.

THE OVERSEERS' CORNER

Questions and Answers

Preventing Tarnish on Tinsel Fabrics

Technical Editor:

Will you be kind enough to suggest a treatment for piece dyed silk and rayon pile fabrics, which would make them actively tarnish resistant? We have tried treatment with cadmium salts, but these have a tendency to make the color yellow. (8521)

We know of no reason why silk and rayon pile fabrics should tarnish and believe that you neglected to mention the fact that the fabric contains tinsel threads. Treatment with zinc acetate in the last wet process will make tinsels tarnish resistant. The zinc salts, such as zinc sulphide, zinc sulphite, etc., which may form are white and, therefore, will appear colorless in the extremely thin coating which may be formed.

Woolen Stock Pilled

Technical Editor:

We are having considerable trouble with white specks that seem to come from topcoatings which are new clips and which we pick and pre-card before we put them into the mix. The white stock in these topcoatings seems to roll up into little pills in our pre-card operations. We have tried using these topcoats in a pickered condition, omitting the pre-carding, without any success. Will you give us your ideas as to card settings, oil, or anything else that we might change, so as to eliminate these pills? (8450)

First, we note that the white pills in the sample submitted are silk, these probably having come from one or more ends of white silk woven into the original fabric for style effect. Second, there is too much oil on the clips. The stock is in a fine, open condition, free of hard ends, and the wool fiber is uninjured.

We recommend that you cut the oil down as much as possible, even trying pre-carding without oil. Should doing this injure the fiber, oil will then have to be put on, but only enough to avoid damage. If oil must be used, run the stock through the card as soon as possible after oiling. The reason for this is that silk and rayon, like cotton, will roll on the card when blended with wool and oiled in one batch.

The general procedure in handling these mixes is to oil the wool, run it through the mixing picker, blend with silk, and run through the picker a sufficient number of times before carding.

We believe pre-carding is necessary on these clips, and we suggest the following settings on a single-cylinder card: On the breast, the workers and strippers to cylinder, 28 gage. Closer than this might injure the fiber. On the card, tumbler to cylinder and breast cylinder, as close as possible without touching. Workers and strippers to cylinder, and workers to strippers, 30 gage. First worker next breast, set with 28 gage. Fancy, set into cylinder deeper than for regular carding. Doffer to cylinder, as close as possible without wire touching. Should a two-cylinder set be used, set first breaker with 28 gage and second breaker with 30 gage, keeping the same settings on doffer, fancy, tumblers, and between workers and strippers on single-cylinder set.

Care must be taken to get the right speed for doffer and workers. If too fast, stock will not be opened properly. If too slow, stock will roll and nibs or pills will be formed. Stock should be fed into machine light, as overcrowding, although meaning high production, will also mean poor quality.

Sizing Carpet Warps

Technical Editor:

I should like to know if there is any method of beaming cotton and jute without sizing them. Can the yarn be run on the loom unsized, or can it be bought already sized so the slashing can be eliminated? The carpet I have in mind is made of cotton, 8/3; jute, 12 or 14 lb.; 2-ply cheap woolen heather yarn on face. There are 8 wires to the inch; 200 picks; and wire height is about 130. (8541)

In fabrics similar to that indicated, stiffness in the jute imparted by sizing is necessary, as it forms a base for the wires used in weaving and imparts rigidity against the beat-up of the filling. Sizing also increases the strength and smoothness of both cotton and jute and decreases variations in length and width. The fact that backsizing (usually, although not invariably, added) in finishing is prevented from penetrating so deeply and coming through to the face is a further reason for sizing before weaving.

In reference to the purchasing of pre-sized yarns, most suppliers could furnish sized yarns, but it is more economical to size while running on to beams. Also, breaking of the size bond and dusting out by subsequent operations will be minimized by sizing as the yarn goes on the beams; and yarns sized in this manner are better "knit" and will not slip around the beam so much as will individually-sized yarns.

Unit Time-Values in Winding, Spooling, Coning

Technical Editor:

On pages 53 and 54 of the February issue of* TEXTILE WORLD, *R. Bruce Williams described unit times and factual data for winding. Will you kindly inform me where I can secure a series of unit times for various job factors connected with spooling, No. 90 winding, and uniform-surface-speed winders. (8564)

We have referred this inquiry to Mr. Williams, who replies as follows: "I am listing below a number of unit time-values covering filling winding, spooling, and high-speed cone-winding, such as the new Universal Roto-coner. These values are only approximate and will vary from mill to mill.

"Filling winding: to change filling bobbin, 10 sec.; to change supply skein, 35 sec.; to change supply spool or cone, 25 sec.; to repair yarn break, 20 sec.

"Spooling: to change spool, 20 sec.; to change supply skein, 35 sec.; to change supply twister bobbin, 25 sec.; to repair break, 20 sec.

"High-speed coning: to change supply bobbin, 8 sec.; to change full package (cone), 15 sec. each*; to repair yarn break, 10 sec."

These figures, as I mentioned, are only approximate. In winding and spooling, the value applied to "repair breaks" covers the time necessary to repair a break on a skein-supply job. With spool-, cone-, or twister-bobbin supply, search for the loose end takes less time and, consequently, reduces the time-value for that operation. With a supply other than skeins, the 'repair breaks' value should not exceed 15 sec.

"*(Operator's set of spindles doff at one time. Total time to change cone will vary according to the number of spindles in set.)"

THE OVERSEERS' CORNER

S. T. A. Annual Convention

(*Continued from page 37*)

Jacobs, secretary of the Cotton Manufacturers Association of South Carolina and president of Presbyterian College. Denouncing the Wagner Act as being unfair and unworkable, he cited statistics to show the effect of the act on the number of strikes in the United States since its passage.

"According to the Bureau of Labor Statistics," he pointed out, "the number of strikes in the United States was 707 in 1927, 604 in 1928, 921 in 1929, 637 in 1930, 810 in 1931, and 841 in 1932. It was in July, 1933, for instance, that the NRA came into existence. Note that the total number of strikes from 1932 increased from 841 in 1932 to 1,695 in 1933. The total in 1934 was 1,856; in 1935, 2,000. Then there came in July, 1935, the Wagner Labor Disputes Act—the culmination of the wave of thought looking in the direction of legislation for the solution of the illness of men's minds. The total number of strikes in 1936 was 2,172, and in 1937, after the full force and effect of the Supreme Court decision had been felt, the total number of strikes had jumped to the unheard of figure of 4,740. These figures clearly indicate to me the fallacy of moral and social reform through legislation."

Much interest was exhibited in the address of Malcolm E. Campbell, senior cotton technologist, U. S. Department of Agriculture. He discussed in detail spinning tests and related-fiber studies being made by the Department, as well as experiments with Hopi Indian cotton toward developing a finer fiber, regional variety studies, bad qualities of the 1937 crop, and other topics of interest to the mill men.

Officers elected to serve during the following year included: L. J. Rushworth, Riverside & Dan River Cotton Mills, Inc., Danville, Va., president; Joseph C. Cobb (in South America at present time) vice-president; P. B. Parks, Jr., superintendent, Mill No. 5. Erwin Cotton Mills Co., Erwin, N. C., chairman of the board. New members of the board of government elected were O. A. Sullivan, Gaffney, S. C., J. O. Thomas, Spray, N. C., J. C. Edwards, Laurel Hill, N. C., and M. T. Poovey, Rockingham, N. C. Marshall Dilling was re-elected executive secretary.

The annual banquet was held Friday evening, with President Holt as toastmaster. Golf and attendance prizes were awarded, and entertainment included a floor show and dancing.

The Associate Members Division held its annual party Thursday evening before the convention proper began. George Snow, Atlanta Brush Co., Atlanta, Ga., presided as chairman. William Randolph, southern manager of A. E. Staley Mfg. Co., Atlanta, was elected to succeed Mr. Snow as chairman. H. B. Rogers, of Parks-Cramer Co., was named vice-chairman.

Loom Speed

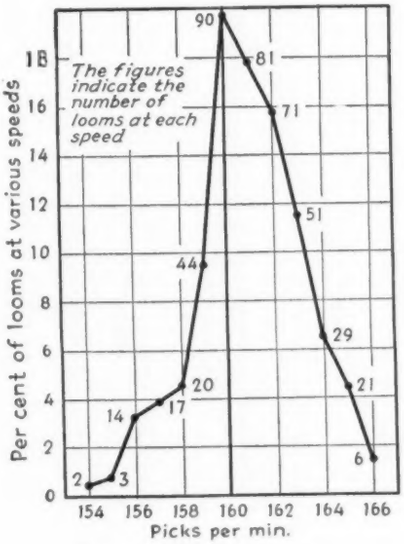
Not altogether dependent on diameter of driving pulley according to test

SOME overseers of weaving, with looms on lineshafts, blame irregular loom speed on variation in diameter of driving pulley. Believing that other factors influence this variation more than pulley diameters, the superintendent of a large southern mill set out to investigate the problem by means of an exhaustive test. With a speed counter he checked the speeds of 449 looms and 10 driveshafts which operate them. He also measured the diameters of the driving pulleys for variation.

Results of the test showed that 22.1% of the looms were under the standard speed of 160 picks per min. 57.7% were above the standard, and 19.9% were operating at exactly 160 picks per min. Average speed of all the looms was 160.92 picks per min. Pulleys with the same diameters in some instances showed a variation of as much as 13 picks per min. On the other hand, one pair of looms running within three picks of the same speed

Table I. Average speed of looms per shaft

Line-shaft	Picks per min.
1	160.39
2	159.66
3	160.73
4	159.19
5	160.89
6	162.04
7	161.83
8	161.75
9	161.36
10	161.42
Average picks per min. for all looms	160.9



Variation in loom speeds

Table II. Relation of loom speed to diameter of driving pulley

Loom No.	Picks per min.	Pulley diameter in inches	Over-size in inches	Under-size in inches
1	162	8 47/64	.....	1/64
3	162	8 49/64	1/64	....
5	163	8 3/4	....	....
7	168	8 46/64	....	1/32
9	168	8 51/64	3/64	....
11	166	8 46/64	....	1/32
13	162	8 3/4	....	....
15	160	8 3/4	....	....
17	161	8 44/64	....	1/16
19	158	8 44/64	....	1/16
21	160	8 46/64	....	1/32
23	158	8 49/64	1/64	....
25	160	8 47/64	....	1/64
27	152	8 49/64	1/64	....
29	160	8 45/64	....	3/64
31	156	8 50/64	1/32	....
33	164	8 3/4	....	....
35	158	8 45/64	....	3/64
37	160	8 46/64	....	1/32
39	164	8 47/64	....	1/64
41	162	8 3/4	....	....
43	164	8 3/4	....	....
45	160	8 3/4	....	....
47	160	8 46/64	....	1/32
49	165	8 47/64	....	1/32
51	160	8 3/4	....	....
53	165	8 47/64	....	1/64
55	163	8 51/64	3/64	....
262	170	8 51/64	3/64	....
264	170	8 50/64	1/32	....
139	171	8 49/64	1/64	....

Standard diameter of driving pulley 8¾ in.
Diameter of loom pulley 14 in.

THE OVERSEERS' CORNER

had a pulley diameter of 3/64 in. oversize and 3/64 in. undersize, respectively—or a total difference of 3/32 in.

The conclusion reached by the superintendent who made the test is that when checking loom speeds in the future, he can forget about pulley diameters as long as they do not vary too much, and concentrate on other problems, such as belt slippage, lubrication, etc. Details of the test are shown in accompanying charts and tables.

Lace Bathing Suits

Suggest possibility of reviving some old styles to produce "something new"

By PAUL NILES

DESPERATELY seeking for an idea which would satisfy the mill owner's demand for "something new," the boss knitter suddenly thought of the fancy light-weight cotton vests made by the thousands for the belles of the Gay Nineties. And so he knit a piece of pink plain rib fabric on one machine, and on another machine produced a black fabric with lace effects. The final result was a bathing suit with a flesh-colored lining and a black lace-like covering.

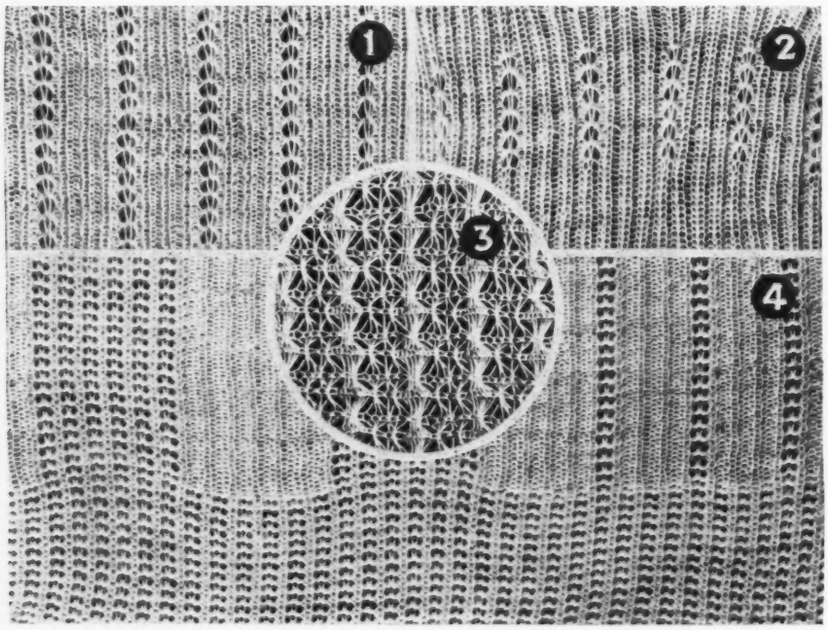
Most of the bathing suits of this general type have been with a pink lining, but at the Knitting Arts Exhibition, held in Philadelphia this spring, there was one which stood out above all the others. This had a black lining with a lace effect in gold and white. The black lining was apparently knit on a 10-cut cylinder machine from singles 18s worsted from yarn, with a plain stitch, knit quite tight. The lace effect was produced on another machine which had a combination of long-latch dial needles, with cylinder needles out. A 2x2 panel of about 30 needles was divided into three sections, by two long-latch dial needles that held either three or four stitches. There were two cylinder needles out at this point, so that when the dial cast off the gathered stitches, there was an open space in each corner giving a sort of a bird's-eye effect.

The idea came to the writer while he was looking at this bathing suit that there is a real possibility of reviving knitted lace effects to produce a variety of "new" fabrics for use not only in bathing suits, but for other types of apparel as well.

Any experienced knitter can obtain an almost endless number of designs in a number of different ways. The following examples, suggest a few of the things that can be done. Fig. 1 is an underwear stitch made with a long-latch needle every fifth needle in the dial. Now take out the cylinder needle on each side of the long latch, and add three tucks; if this is broken up in short panels, it will appear as in Fig. 2. Take the old reliable 2x2 stitch, knit this loosely; experiment by adding long latches until you get a satisfactory lace effect. If the pattern appears to be incomplete, try a different arrangement of the chain, switch the long needles around, change the width of the panel. You may be trying for one effect, and strike an even better one.

The sample shown in Fig. 3 was made on an open-head, 30-in. 24-feed pattern-wheel machine. The wheel was set to hold six stitches on one needle, the next four casting off every other feed. To make the open spaces, arrange a pattern wheel to hold two cylinder needles for five or six stitches; have a needle out on each side of the holding stitches; when the collected stitches are released, there will be a knot in the center with the desired spaces around it. Keep in mind that the more needles left out, the more open space there will be.

In the sample shown in Fig. 4, the top section is a regular rib underwear fabric produced with an automatic shaping chain; the lower section consists of two modifications. This can be made in plain, tuck, double-tuck, panel, block, and single long-latch effect. Knit it more loosely, leave out a few needles, put in the long latches where you think they will give a striking design. Try a few inches of blocks across the top, a few inches of plain stitch to hold the blocks, a width of tuck, a few panels. Experiment with these effects and you may hit on something which will make your line of bathing suits, sweaters, or dresses the "tops" next season.



A few examples of lace effects produced on circular knitting machines

LOOMFIXERS' MANUAL

COTTON SECTION—*Chapter III (Concluded)*

By IVAR MOBERG

Loom Driving and Braking Motions

TO BE AN A-1 loomfixer it is necessary to know how to calculate any desired loom speed. This is a relatively simple matter, and any loomfixer who will spend a few minutes of his spare time can learn the calculations.

If the loom is belt driven, and a speed of 150 picks per min. is wanted, with a countershaft speed of 300 r.p.m. and a loom pulley diameter of 16 in., the formula would be: Speed of loom × diameter of loom pulley ÷ Speed of countershaft = Pulley on countershaft. Or, numerically: (150 × 16) ÷ 300 = 8 in. pulley on countershaft. The calculations can be proved by substituting the pulley diameter, and solving for picks per minute, thus: (300 × 8) ÷ 16 = 150 picks per min.

Direct Motor Drive

Fig. C28 shows a direct motor drive with the following particulars: friction gear, 151 teeth; motor speed, 1,160 r.p.m.; loom speed wanted, 116 picks per min. To calculate the teeth in the motor pinion we use this formula: Loom speed wanted × teeth in friction gear ÷ motor speed = Teeth in motor pinion. Or, numerically: (116 × 151) ÷ 1,160 = 15.1. In this case we would use a 15-tooth motor pinion.

Fig. C29 shows a compound, or auxiliary, loom drive. To find the motor pinion for a given loom speed with this type of drive the following formula is used: Loom speed wanted × teeth in friction gear × teeth in crankshaft gear ÷ motor speed × teeth in friction-gear pinion = Teeth in motor pinion. Or, numerically: (112 × 132 × 42) ÷ (1,760 × 22) = 16-tooth motor pinion.

It will be noticed the bottom-shaft gear of 84 teeth is not included in this calculation. The reason for this is that this gear merely acts as a carrier to transmit motion from the friction-gear pinion to the crankshaft gear. Therefore the number of teeth in this gear has no effect upon the final result.

If, in the above calculation, 1 is substituted for the loom speed wanted (112 picks per min.) the answer will be a constant in teeth of motor pinion per revolution of crankshaft. Then, multiplying this constant by the loom speed desired will give the number of teeth in the motor pinion. Numerically, this would be: (1 × 132 × 42) ÷ (1,760 × 22) = .143, speed of motor pinion per revolution of crankshaft. Then, .143 × 112 = 16, the number of teeth in the motor pinion which will give the desired loom speed.

Causes of Cloth Defects

Numerous cloth defects are caused by faulty driving and braking. Some of these, and their causes, are as follows: (*1*) *Overshots*—These are caused by insufficient power transmission, which causes the loom to slow down at the pick. Therefore, the shuttle is slow in coming out of the shed and has to "plow" its way out. (*2*) *Undershots*—Same causes as above. (*3*) *Broken ends*—These are caused by the shuttle "plowing" its way through the last part of the shed, due to low velocity. (*4*) *Pull-ins*—These are due to a slowing down of the loom at the pick. Because of this, the shuttle tip, in passing by the thread at a late stage, brushes it aside just enough to cause it to miss the filling. (*5*) *Bobbin break-outs*—The shuttle, if not subjected to the full force of the pick, may enter the opposite shuttle-box so late that it strikes the shuttle feeler in passing, causing the latch finger to be somewhat depressed, and struck only a glancing blow by the bunter on the lay. Thus the bobbin may be permitted to project above the wall of the shuttle and in this position it may tear the warp as the shuttle goes into the shed. (*6*) *Broken picks*—Low velocity of shuttle causes it to enter the box on the feeler side late, or only partially. On Draper looms, this may cause the feeler to strike the shuttle, or so near the butt of the bobbin that the bunch runs out before the next filling transfer takes place. (*7*) *Mis-picks*—If braking is inefficient, on a dobby or jacquard loom running on a fabric which requires a heavy change in the number of harnesses up for the various picks, the loom has a tendency to overrun or backlash. Either of these faults is likely to cause the harness motion to miss when the loom is again started up, thus causing a mispick. Also, if for some reason the loom bangs off, an inefficient brake will permit the resilience of the protecting motion to throw the loom violently backwards. This will frequently cause the harness motion to miss on the restart. (*8*) *Break-outs*—When a loom with an ineffective brake bangs off, the resilience of the protection throws the loom a second time against the protection with the cranks on top center. Often, in such cases, the protection fails and a bad bobbin break-out or smash is the result.

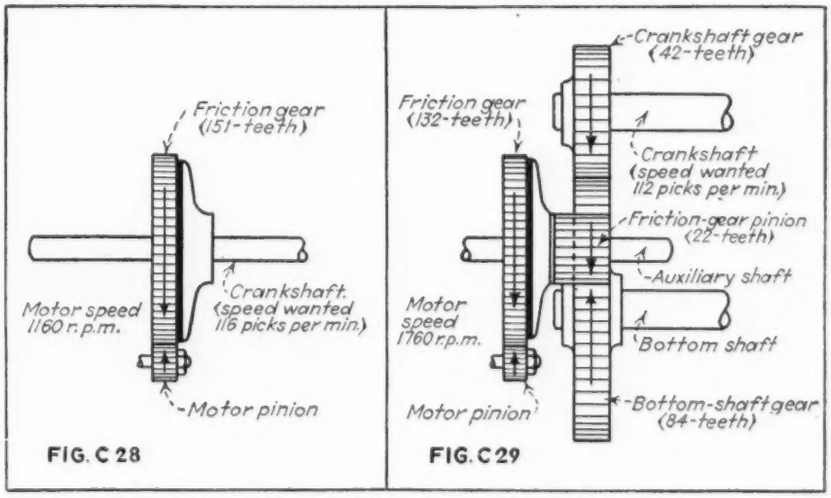


Fig. C28. Diagram of direct motor loom drive
Fig. C29. Diagram of compound or auxiliary loom drive

LOOMFIXERS' MANUAL

RAYON AND SILK SECTION—*Chapter I (Continued)*

Shuttle Boxes

IN THE FIRST installment of the Rayon and Silk section of the Loomfixers' Manual (TEXTILE WORLD, March, 1938 issue) a discussion of shuttle boxes and box-lifting mechanisms was begun. The present installment continues the description of these parts and mechanisms.

On some types of looms the method employed for changing the shuttle box from one cell to another is as shown in Fig. RS3. Chain *A* runs from the box lifter rod over a small pulley on the box end, across to another pulley, then down to the bottom of the loomside and back to the back of the loom, coming up to the back arch, where it is secured to the compound lever necessary to control lifting of the shuttle boxes. This type of box motion is often found on intermediate and gem head looms. For slight adjustments when the box is too low or too high, use the adjustment on the box lifter rod in the front at *B*. If the spring is too weak, causing the box to jam, adjust the tension of the spring at casting *C*.

Still another type, similar to the above, is found on a great many rebuilt looms—looms changed over from plain or single shuttle to positive 2x1. In place of using compound levers for the control of the boxes, and the chain for the lifting and lowering of boxes from cell to cell, gear *D* is placed on the bottom shaft either on the inside or outside of the loom frame (as diagrammed in Fig. RS4). This gear drives gear *E*, which contains a cam required for the lift from one cell to the other. The chain is fastened on the bottom of the cam lever. If one cell is out of line with the other, the two can be brought into proper position by manipulation of the adjusting nut. Adjustments are made on the box lifter rod and spring as described for the preceding box motion, the two being similar.

Numerous Types in Use

Also in use on many 2x1 box looms are numerous other types of cam, gear, and lever motions. Most of these looms have the type of giveway connector shown in Fig. RS1, with a long compound lever, similar to that illustrated in Fig. RS5, which is connected to the cam, gear, or lever box-change mechanism. Generally speaking, these motions are quite simple and require no explanation, as a loomfixer can acquaint himself with their principles by a few hours study while in the section.

On the other hand, one motion, installed on thousands of looms, which stumps many fixers is the vibrator box motion illustrated in Fig. RS5. This motion is available in a variety of types using the same basic principle, but differing in numerous parts and methods of adjustment. This box motion is applicable to looms from 2x1 on up; is adaptable on 2x2, 4x4, or pick-and-pick weaves; and dobby heads, with or without a multiplier. The shuttle box and vibrator described and illustrated are for a 4x1 loom with the first cell in line with the race plate. The shuttle box lifter rod is of a type different than those already described. This rod fits into the lifter rod tube and can be released by withdrawing the plunger when repairs or adjustments require removal of the shuttle box. Should the plunger break off inside the lifter rod, or otherwise become useless, the tube can be tapped for a 5/16-in. setscrew at A^1 and a setscrew inserted to take the place of the plunger.

Should the tube become pinched at point A^2, the setscrew at this point can be released and bushed out so as to allow more room for the tube. The tube is adjusted up or down, with resulting motion to the box, at point A^3, by means of a small bolt.

If the first cell is level, and the second cell too high or too low, adjust the setscrew B^3 so as to lower or raise the swing of the short compound lever B^1 to give the correct adjustment to equalize the first and second cells. If the third and fourth cells are out a trifle, a similar setscrew on lever B^2 is used to equalize the cells. After the cells have been correctly equalized, it may be necessary to raise or lower the boxes, by means of the lifter-rod adjustment, to level them with the race plate.

Worn and Broken Teeth

If the teeth on the top- or bottom-cylinder gear become worn by contact with the vibrator gear, they can be repaired by welding to fill in the worn space. However, if the teeth on the vibrator gear break off, a new gear should be placed on. Generally, such breaking or wearing of vibrator and top- and bottom-cylinder-gear teeth is caused by the fact that the vibrator-lever lifting rod pulls the front end of the lever too high, forc-

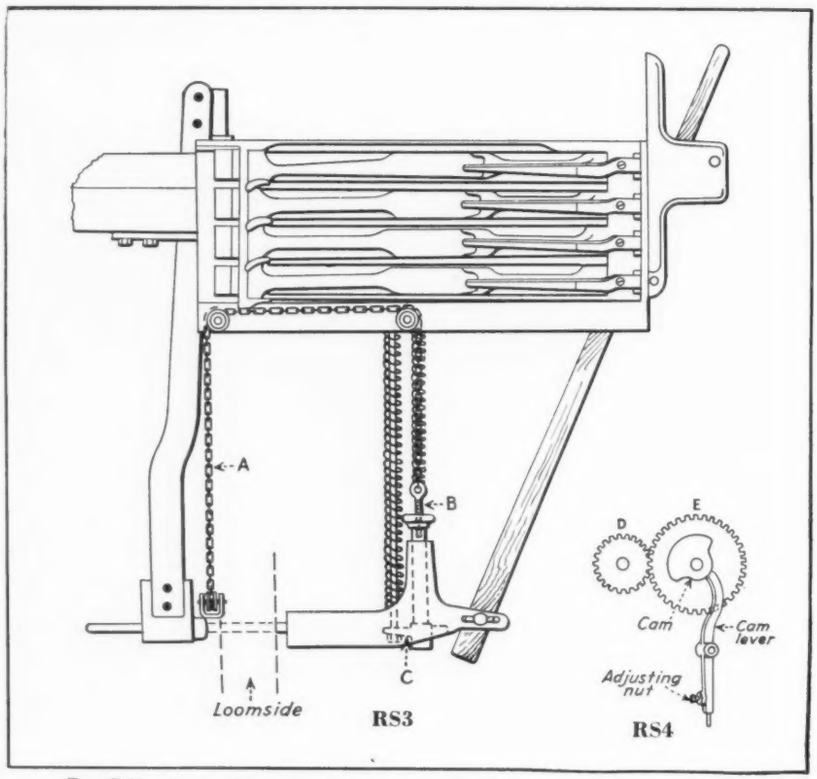


Fig. RS3, above, shows one method for changing shuttle boxes from one cell to another. Fig. RS4, right, a cam and gear for same purpose

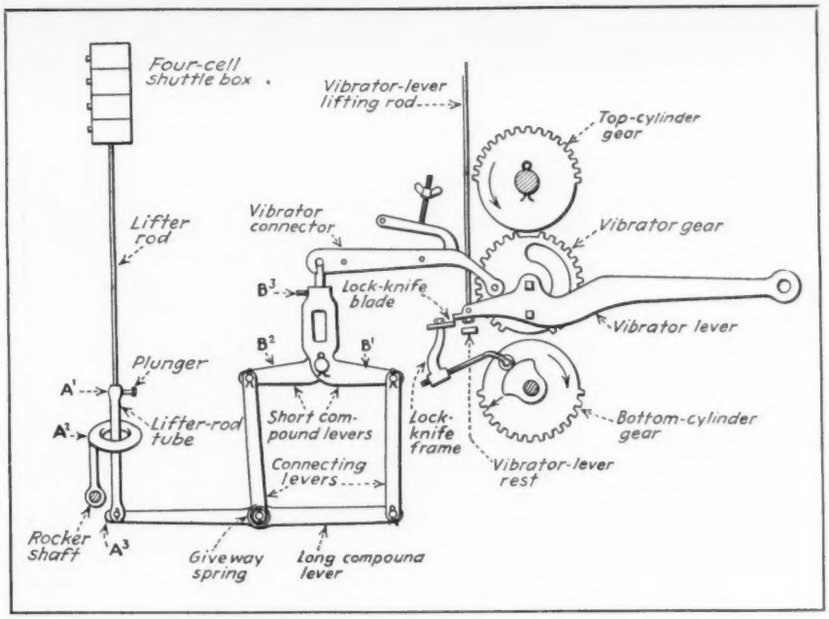


Fig. RS5. Vibrator motion for raising and lowering shuttle boxes

ing it solidly into the teeth and gear casting. At the heel of the vibrator lever are adjusting nuts, one for each lever. By proper adjustment at this point the height of the lift of the vibrator gear can be controlled to give just the amount required. When the vibrator-lever rest works down or loose, it allows the vibrator gear to fall down on the bottom-cylinder gear and mesh too deeply. Proper clearance at this point is controlled by adjustment of the rest.

Regardless of what box motion is on a loom, if it is of the drop-box type the change must take place precisely as described below. Turn the lay to front center, so the lay will be as far forward as it will go, when the box is changing from one cell to the next called cell. Whatever cell is being called into play, the boxes must be exactly halfway from the called cell to the cell last used. For instance, if the second cell of a four-cell shuttle box has been in play, and the box is changing to the fourth cell, the third cell should be level with the race plate.

On a 2x1 loom, the shuttle box should be at a point halfway between the top and bottom of the second cell on either first or second shuttle call, providing the box is changing while the lay is at front center.

To test the change, turn the lay on over by hand and note whether, when the pick is ready to drive the shuttle out of the box, the shuttle box has exactly reached the rest position, after completing the change. If the box is a trifle late on the change, the picker may become jammed against the box, or catch under or over the point of the shuttle; this often causes a serious smash or break. Should the box change be too early, the shuttle may be trapped at the front end of the box before it has had time to go completely in. This fault will cause damage to the lay beam by splitting the wood end, or damage the shuttle.

When shuttle boxes are late or early on box motions using the cam or gear box-change, the cam or gear is turned slightly on the shaft in the correct direction to overcome the incorrect timing. On looms having the vibrator-motion box change, we have a different problem. Due to the fact that the eccentric gears on the bottom shaft and bottom-cylinder shaft, and the bottom-cylinder gear, are all capable of being used in timing the boxes, but are keyed into fixed positions, we must resort to other means of timing the boxes on the downward movement only. To time the bottom-cylinder gear, the crankshaft is lifted so that it removes the crankshaft gear from mesh with the bottom-shaft drive gear, and the crankshaft gear jumped one or two teeth backward or forward as may be required. Another method some loomfixers use is to cut a new keyway in the eccentric gear on the bottom-cylinder shaft or the bottom-cylinder gear in order to change the turn of the gear and thus bring the right change to the shuttle box. The latter method is not so practical as the former.

On the upward movement, the boxes are timed with the top-cylinder gear. This gear can be removed by taking out the cotter pin in the end of the top-cylinder-gear shaft when the vibrator gear is in the down position. The top cylinder gear can then be pulled out and turned to the position required to correct the timing of the box change on the upward movement.

To be sure both top and bottom movements of the shuttle box are even, turn the lay so the outside teeth on the top- and bottom-cylinder gears are on top and bottom, respectively; a line drawn between the first and last teeth of each gear should be exactly horizontal.

Should it be necessary to remove the bottom driveshaft for any reason, care should be taken to see that the two eccentric gears are properly meshed when the shaft is replaced.

When experiencing trouble due to the fact that the boxes are working incorrectly although the pattern chain is correct, thus causing weaving of more picks of one yarn than are called for, watch the lock-knife frame while the loom is in operation. If the vibrator-lever lifting rod jerks up the point of the vibrator lever it will be found that the lock-knife blade is held in on top of the vibrator lever point when it should be in the released position. The lock-knife blades become worn and broken when this part is not timed properly; when so worn, they should be replaced with new blades, and the motion retimed. Another cause of the above defect is a loose bottom-cylinder gear. Occasional replacement of the key which holds the gear in place, and perhaps substitution of a new gear or new shafting, should keep the gear absolutely tight on its shaft, and eliminate defective weaving due to this cause.

Timing Lock-Knife Movement

When timing the lock-knife movement, make the necessary picks to place the top shuttle in the plain or motor side of the loom. The bottom dobby-knife on the head motion must be in the "in" position; in this position time the lock-knife cam, in relation to the bottom-cylinder gear, so the high point of the cam points in the direction of the second, or between the second and third, tooth of the cylinder gear, as indicated by the arrow in Fig. RS5.

Such looms as are equipped with the box motion just described, but which do not have the type of giveway connector described in the first installment of this article (see Fig. RS1), will be equipped with a giveway spring secured to the long compound lever shown in Fig. RS5. This is a strong spiral spring with giveway intensity controlled by means of the bolt and nuts which hold together the two parts of the long compound lever and the connecting lever which is attached to it at this point. If the spring is too tight, the giveway motion will fail to function properly, resulting in broken picker sticks or loom castings; if too loose, boxes will continually be jamming.

NEW MACHINERY AND PROCESSES

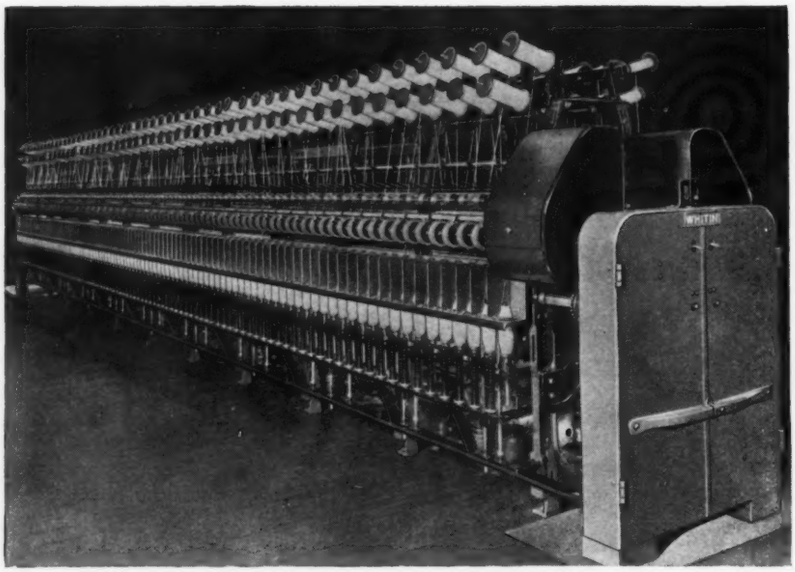
Worsted Ring Spinning Frame

Whitin Machine Works, Whitinsville, Mass., has developed a new high-speed Bradford worsted ring spinning frame, which produces relatively large packages of yarn. Thus, the frame is said to make it possible on fine numbers to spin at high speeds on a 3-in. ring, 7½-in. traverse, giving a net weight of approximately 7 oz. of yarn; on medium and coarse numbers the same size ring may be used with a 9-in. traverse, giving a package of approximately 9 oz. of yarn.

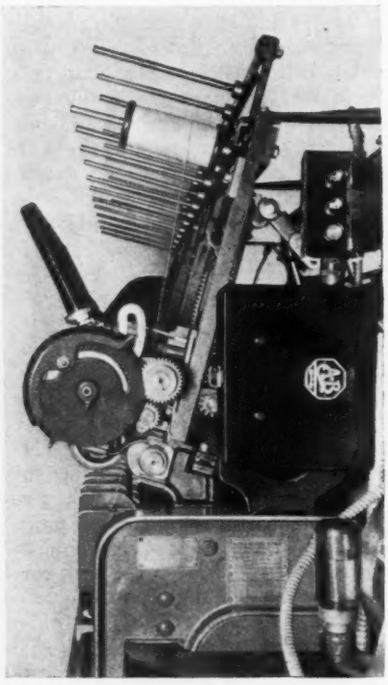
A patented reciprocating motion embodied in the new frame provides for simultaneous travel of ring and spindle rails, the two rails progressively traveling farther apart during the cycle of the doff. The exact ratio of this simultaneous traversing motion makes it possible evenly to control tension, and adds a control to the balloon not previously available. The reciprocating motion eases tension at the small part of the bobbin so that it is possible to spin at a speed previously obtainable only at the greatest diameter of the bobbin. The motion likewise increases tension at the greatest diameter of the bobbin and therefore keeps the balloon down.

To improve quality of the yarn, and make it possible to run at relatively high speeds, the angle of the roll stands has been increased almost to the vertical, which automatically decreases the distance from the pot eye to the nip of the rolls, and also puts the spin on an almost vertical plane. Thus, the twist runs right up to the nip of the roll and does away with excessive breakage on the pot eye board, besides materially decreasing the accumulation of fly waste at that point. Adequate, automatic, even lubrication throughout the doff, through the use of improved auto-lubricated vertical rings, permits a higher speed than would otherwise be possible, and does away with the necessity of stopping during the doff to oil rings.

A simpler type of builder motion has been applied to the machine; a mechanism which makes it possible to momentarily reduce speeds while ends are being pieced up has been incorporated; and the over-all width of the frame has been cut to 42 in.



Bradford Worsted Ring Spinning Frame (Whitin)



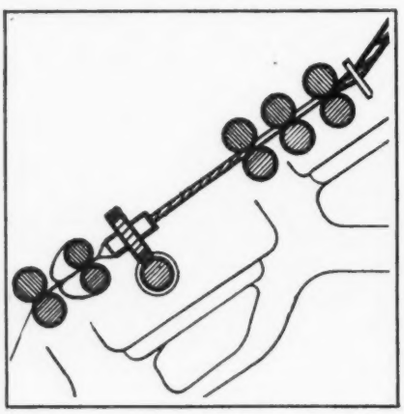
Worsted Spinning Frame Roll Stand Angle (Whitin)

Cotton Spinning Aids

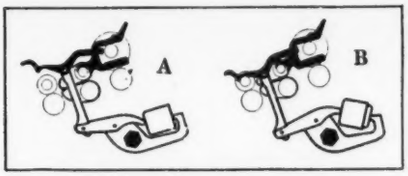
A new method of roll weighting for spinning frames has been devised by American Casablancas Corp., 518 Johnston Bldg., Charlotte, N. C. In making use of a spring for its source of pressure this device obviates use of heavy bar weights. The electroplated automatic levers, which are mounted on a hexagonal bar close beneath the middle and back rolls, are so designed that it is impossible for any lever to become jammed or ineffective in its operation. The weight can be released from the rolls merely by lifting the front saddle (*A*); and by pushing the front saddle downwards, pressure can be put back on the rolls (*B*). This new method of weighting is said to be equally applicable to old and new frames.

Introduction of a Compound Drafting system was also announced recently by this company. This system is for spinning medium- and fine-count yarns; i.e., 40s to 120s, and is applicable only to new frames. Yarn is spun directly from drawing sliver; however, it is necessary that the sliver first be wound on a slubber which effects a nominal draft of 2, for suitable packaging. Drafting range is from 187 to 250.

The first drafting unit consists of three pairs of rolls turning at the rate



Compound Drafting System (Casablancas)



Automatic Lever Weighting (Casablancas)

of 2.5 r.p.m., and effects a draft of 6 or 7. A second unit consists of a twisting device which revolves at a rate of approximately 12 r.p.m. about an axis parallel to the axis of the yarn to insert a false twist, and effects a draft of 2. The third draft of 15.58 to 17.85 is effected by the Casablancas double-band device.

Silk and Rayon Winder

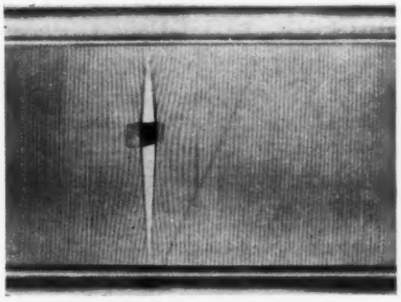
First shown at the recent Knitting Arts Exhibition, a new line of silk and rayon winders is now being offered by Fletcher Works, Inc., Glenwood Ave. and Second St., Philadelphia. The winders are available in both single- and double-deck models.

The machines are equipped with speed-change gears so arranged that at the lower speeds variations of as little as 10% are possible, while at higher speeds variations as small as 6% can be made. Traverse bars are moved by accurately milled, heart-shaped cams, which make possible production of bobbins with perfect traverses; in addition the traverse is readily adjustable by means of change gears.

Another feature of the machine is a balance wheel on the end of the motor shaft which permits the operator to stop the machine at any time without putting up the spindles. The weight in the wheel brings the machine to a very slow stop and prevents the swifts from running ahead. Likewise, when starting, the machine comes up to speed slowly and, it is stated, will not break the end of yarn, even on 13/15 den. silk.

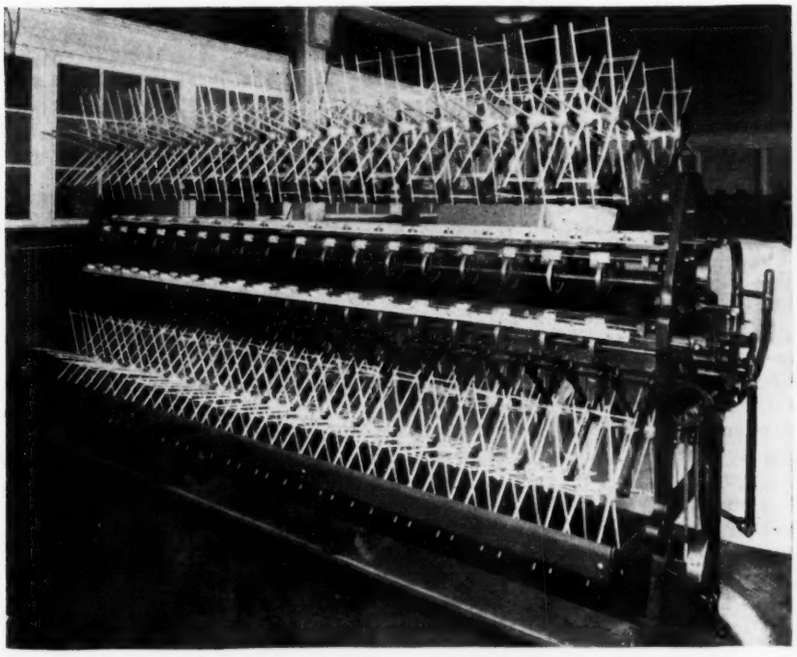
Steel Spring Loom Reed

A new all-metal loom reed with highly flexible dents has been developed by Schmidt Loom Reed Works, 116 Front St., New Bedford, Mass. It was developed for high-speed rayon looms, to withstand vibration; however, it can be used on any type of loom where flexibility of the dents will be an advantage in allowing excessively knotty ends to pass through.



Steel Spring Loom Reed (Schmidt Loom Reed)

The flexibility of the reed dents, which are held by six spiral springs, permits the use of full-size wire. In place of the conventional metal backing strips, tubes are generally used; however, they are optional, depending upon the type of reed for which the loom is fitted.

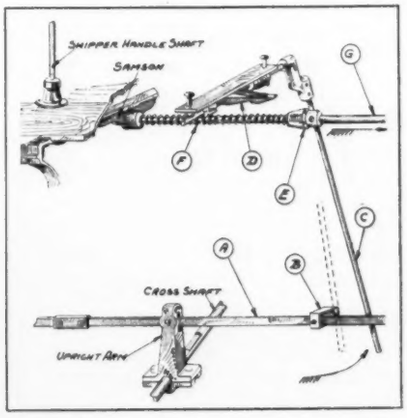


Double-Deck Winder (Fletcher)

Full-Bobbin Stop Motion for Filling Frames

As a result of the incorporation of longer traverses and larger creel bobbins on filling frames, Saco-Lowell Shops, 60 Batterymarch St., Boston, has introduced a full-bobbin stop motion for these frames. By its use, uniformly full bobbins are assured at all times; and at the same time spinners and doffers are enabled to attend an increased number of spindles.

In starting the frame after doffing, movement of shipper rod *G* brings collar *E* under latch *D*, which is pressed down by a flat steel spring. Now the builder chain is at its maximum effective length, the ring rail at the bottom of the traverse, and the traverse rod in its extreme position. The builder chain winding on the drum causes the ring rail to rise, and block *B* gradually to approach the poker rod *C*. Further gradual movement of block *B* will finally move poker rod *C* sufficiently to raise latch *D*. Thus collar *E* is released so that the powerful compression spring *F* will move the shipper rod *G* in the direction of the arrow. This movement either shifts the drive belt to the loose pulley or opens the motor switch to stop the frame.

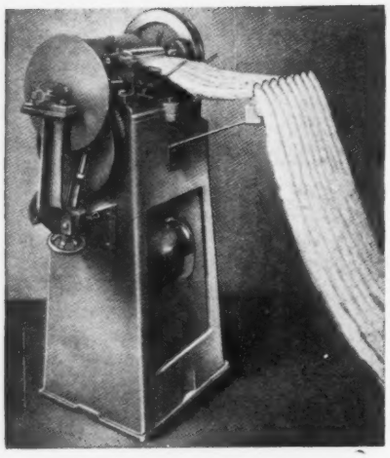


Full-Bobbin Stop Motion (Saco-Lowell)

The shipper rod is free to move within the coils of the spring *F* and the bore of the sliding collar *E*, so that the full bobbin stop motion will not be affected by stopping the frame between doffs.

Fiber Cutter

For cutting staple fiber of all types, H. W. Butterworth & Sons Co., Philadelphia, has developed a continuous self-feed machine which



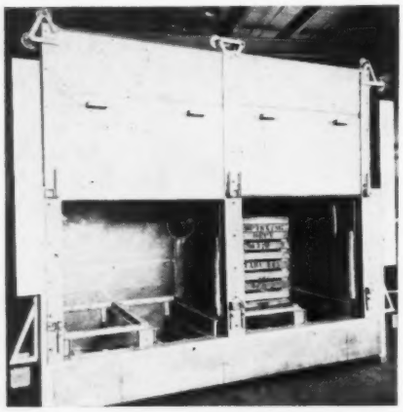
Fiber Cutter (Butterworth)

will cut any staple in lengths from 0.192 in. to 5.64 in. In addition, extra change gears can be furnished which allow the machine to cut in lengths up to 19.1 in. The machine will handle from 4 to 12 tops simultaneously, depending on the type of material being cut; 300 to 800 cuts per min. are possible; production, naturally, is dependent upon the number of tops fed into the machine, the speed at which cuts are made, and the length of cuts.

The cutter is motor driven and, once started, requires no attention other than seeing that the feed of tops is continuous. The machine occupies 16x17½ in. floor space, and is 48½ in. high.

Yarn Steamer and Conditioner

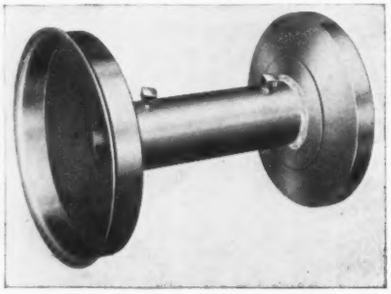
Development of a new machine for steaming and conditioning all types of yarn, including woolen, worsted, cotton, silk, and rayon, and having a capacity of 500 lb., has been announced by Riggs & Lombard, Inc., Lowell, Mass. The machine can be used for steaming only or for steaming and conditioning. The unusually large output is due to the fact that the machine does not depend on absorption alone, but circulates humidified atmosphere through the trucks of yarn under slight pressure, thereby obtaining uniform humdity and temperature at all points. The machine is equipped with automatic controls, so that once the trucks are in place, the doors closed, and the switch turned, no further manual attention is necessary until a light flashes, indicating completion of the cycle.



Yarn Steamer (Riggs & Lombard)

Cylinder Head for Spinning and Twisting Frames

A new cylinder-head drive unit, Model 38, for spinning and twisting frames has been placed on the market by Saco-Lowell Shops, 60 Batterymarch St., Boston, and is standard on all 8-, 9-, and 10-in. cylinders. It consists of a 10-in. hollow steel sleeve with a ¼x⅛-in. keyway. Welded in place at each end is a pressed-steel dished head provided with eight reinforcing webs. The sleeve fits snugly on the head-end shaft, and is held in place by the key and two square-headed setscrews.

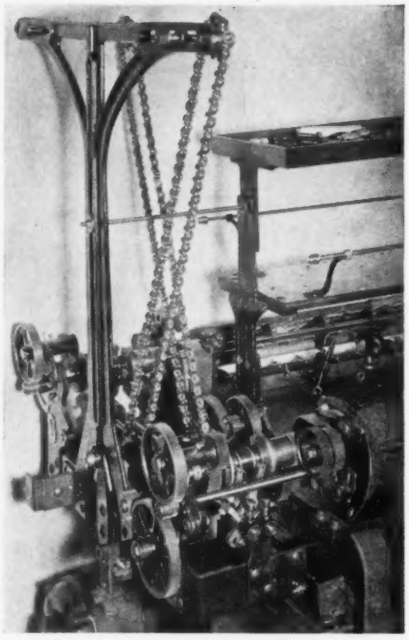


Cylinder Head (Saco-Lowell)

Himalaya Attachment

For producing, from one roving, yarn of three distinct counts, giving the effect of a heavy-, a medium-, and a fine-count yarn combined in any sequence in a continuous thread, as well as for use in making an ordinary two-count Himalaya, flake, and slub yarns, Whitin Machine Works, Whitinsville, Mass., has recently put on the market its Triplex three-speed Himalaya yarn attachment. The attachment is said to be applicable for spinning cotton, spun rayon, or a combination of fibers; and to make possible production of certain Japanese or oriental handwoven fabric effects, as well as fabrics having a linen-like appearance.

The method used in making Himalaya yarn is to increase and diminish the speeds of the back roll which, in turn, increases or decreases the draft in the roving, forming thick and thin places in the yarn. Usually, the front roll is run at continuous speed.



Himalaya Yarn Attachment (Whitin)

Useful Accessories for Textile Mill Use

Acid Buckets. Under the trade name "Flexite," an acid bucket made of a semi-flexible material which will not crack or break under normal use has recently been introduced by the B. F. Goodrich Co., Akron, Ohio.

Reversing Motor Starter. Allis-Chalmers Mfg. Co., Condit Works, Boston, Mass., has announced a new reversing motor starter, designated Type AT-7-R, furnished for 7½ hp., 550 volts, or less.

Color Matching Lamp. Supplementary to its series of large-size carbon-dioxide color-matching lamps, Barkon-Frink Tube Lighting Corp., Long Island City, N. Y., is now marketing a series of bench models, known as Model F.

Fan Roof Ventilator. Said to make possible positive, assured roof ventilation under every atmospheric condition is the new fan roof ventilator developed by DeBothezat Ventilating Equipment Division of American Machine & Metals, Inc., 100 Sixth Ave., New York.

Fiber Lagging for Pulleys. A new fiber lagging developed by Rockwood Mfg. Co., Indianapolis, Ind., for increasing the diameter of pulleys and

flywheels is said also to make possible increases in the size of motor pulleys and hence to result in higher belt speeds and machine capacities.

Differential. Supplementing its line of accessory equipment for use with its variable-speed transmission, Reeves Pulley Co., Columbus, Ind., has developed a new differential, known as Model MDB-3.

Recording and Controlling System. A pneumatic telemetering system for recording and automatically controlling temperature, flow, pressure, and liquid level, known as the "Metavane System," has been developed by Bristol Co., Waterbury, Conn.

Boiler Feed Pump and Water Control. The basic principle employed in a new boiler feed pump announced by Johnson Corp., Three Rivers, Mich., consists of first equalizing the pressure in the receiving chamber of the pump unit before pumping its contents into the boiler. Improvements in the company's boiler-water control equipment include a redesigned electrode holder; changes in the relay which controls the make-up valve of the pump; and introduction of a third electrode, which provides for a low-water cut-out circuit.

Conveyor Belting. A crepe-finish conveyor belt, for conveying packaged material on a greater degree of incline than is normally encountered, has been developed by the Mechanical Goods Division, United States Rubber Products, Inc., New York.

Flexible Coupling. Link-Belt Co., Chicago, has developed a new flexible coupling, known as Type RCB, which features several major improvements, including a recently patented divided-roller feature which combines the advantage of double roller chain with the more rugged and simple construction of single-width chain.

Belts and Hose. Oil-proof transmission belting and compressed-air hose constructed with an oil-proof inner tube, have recently been announced by Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., 30 Townsend St., Passaic, N. J.; both of these items use in their construction a recently developed synthetic material.

Filter. For filtering volumes up to 100 gal. per hr., Alfred Bott Co., 205 E. 42nd St., New York, is offering a new Seitz single-disk junior filter, known as No. 40-1. The filter can be used as a single- or multiple-disk unit, or as a multiple-disk tandem unit.

Propeller Type Fans. For use in duct systems and for other similar applications where resistances to air flow are encountered, Propellair, Inc., Springfield, Ohio, has brought out a new line of propeller-type fans.

Speed Control. A simple, positive mechanism for governing the speed of output shafts through an infinite number of variations within the range of the unit has recently been introduced by Morse Chain Co., Ithaca, N. Y.; with the input shaft operated at the recommended speed of 180 r.p.m. the control can quickly be adjusted to deliver from 1½ to 40 r.p.m., or any speed between these two limits.

Floc-Former. For assistance in removal of impurities from water, Permutit Co., 330 West 42nd St., New York, has developed a new Floc-Former, the purpose of which is to aid in coagulation of impurities so that the resulting floc will settle rapidly and be removed from the water in the settling basin instead of in the filter.

NEW DYES & CHEMICALS

Sulphonated Oil

Development of a new vegetable-base sulphonated oil has been announced recently by Quaker Chemical Products Corp., Conshohocken, Pa. This product, known as Quaker XX Oil, is recommended for use by the manufacturer in wetting-out, dyeing, finishing, and other textile processes where a low-cost leveling agent, softener, or plasticizer is needed.

Vat Dye

E. I. du Pont de Nemours & Co. announces the following new product: Ponsol Brown 2G Paste, a vat dye producing brown shades which are yellower than are obtained with Brown AR Paste and brighter than those obtained with Brown AG Paste; fastness properties are excellent.

Anti-Foaming Agent

Several new applications for octyl alcohol as an anti-foaming agent have been announced recently by Carbide & Carbon Chemicals Corp., 205 East 42nd St., New York. Also recent investigations have shown that correct concentration of the product is essential, as in some applications too high a concentration will promote foaming, rather than prevent it. One of the newer uses of this material is in air conditioning systems where foaming is prevented by addition of 10% of octyl alcohol on the weight of the wetting agent employed to lower the dust count of the air. Another application is to prevent foaming of printing pastes.

Textile Auxiliaries

General Dyestuff Corp., 435 Hudson St., New York, has recently announced a number of new scouring agents, waxes, and other textile auxiliaries. These include the following products:

Akaustan N., a white crystalline powder for flameproofing various types of textiles by the one-bath method.

Vegan Salt A, an auxiliary for use in dyeing mixed yarns and fabrics of spun rayon and wool or cotton and wool to prevent reduction by boiling in neutral baths of all direct dyes and neutral or weekly acid dyeing wool dyes; the product is said also to prevent the stripping effect on spun rayon dyeings on prolonged boiling, to promote level and well-penetrated dyeings, and to prevent heat wrinkles caused by dyeing in neutral baths.

Igepal W and Igepal L, two synthetic scouring agents—the first intended primarily for use in processing wool and mixed fibers containing wool, and the second a similar product combined with a solvent for processing all types of fabrics; both compounds are resistant to hard water, mineral salts, and acids.

Medialan A, Medialan A Power, and Medialan AL, three synthetic fulling and scouring agents, differing mainly from the Igepons and similar synthetic scouring agent in that they have a strong falling action.

IG Waxes O, OP, E, EG, S, B, V, N, and L, a series of waxes of various consistencies and melting points for use in a wide range of finishing operations.

Colloidal Graphite for Impregnating Textiles

Announcement has been made recently by Acheson Colloids Corp., Port Huron, Mich., of a colloidal form of graphite which is believed to have a number of potential applications in the textile industry.

Applied to fabrics, the compound imparts to the cloth conducting, reflecting, lubricating, and other properties of graphite, which may prove advantageous in certain types of industrial fabrics, for example. In the textile laboratory, colloidal graphite finds use in the preparation of soiling standards employed in testing the efficiency of soap and other detergents.

NEWS OF SUPPLIERS

Pairpoint Corp., New Bedford, Mass., has sold both its glass and silverware departments and will concentrate its manufacturing and sales effort on its paper cones, quills and tubes for the textile industry.

Ciba Co., Inc., has appointed Samuel I. Parker as divisional sales manager with headquarters in New York. For the last 5½ years Mr. Parker represented Ciba in Atlanta. Harold P. Faust formerly of Charlotte has taken over Mr. Parker's former territory with headquarters at Columbus, Ga.

Crane Co., Chicago, has appointed L. B. Hampton manager of its Pacific Northwest district succeeding F. A. Nitchy who is retiring after 46 years with the company.

Wonalancet Co., has removed its selling offices from 179 Summer St., Boston, to its general offices at Nashua, N. H., as of July 1.

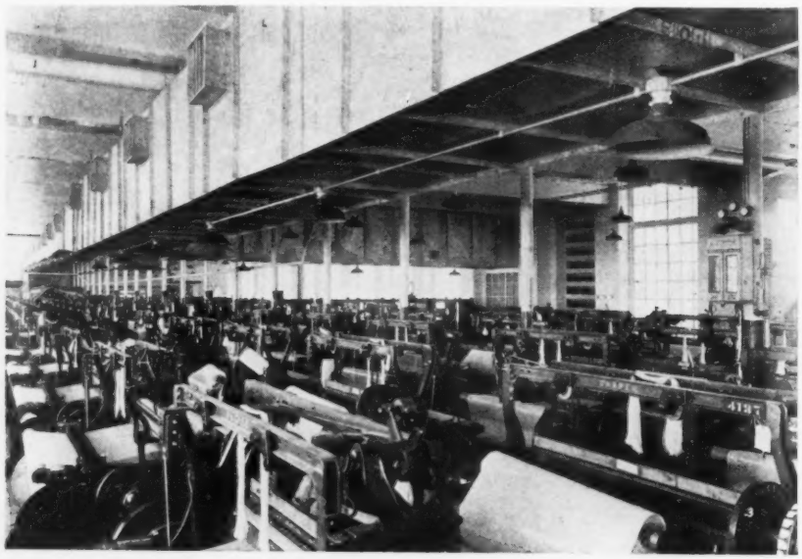
Armstrong Cork Co., Lancaster, Pa., has promoted F. E. Stevens, assistant general manager of the industrial division to general manager of the division, succeeding S. E. Conybeare who died recently. W. B. Tucker will assist Mr. Stevens.

Karl Lieberknecht, Inc., Reading, Pa., will hereafter sell direct. Albert Friedmann, manager of the plant, will be in charge of sales. Erwin Ruckel, with offices at 47 West 34th St., New York, will be the Northern and Canadian representative, while Ernest A. Feustel, Inc., with offices at Charlotte, will cover the southern and western territory. The firm will also act as selling agent for its German associate, Karl Lieberknecht, Oberlungwitz, Saxony. The full-fashioned machines of this firm were pioneered in America by the late Louis Hirsch and for 25 years sold through Louis Hirsch Textile Machines. Inc.

International Nickel Co., New York, has established a new field office for technical service in the Grant Building, Pittsburgh, Pa., which opened June 1, under the direction of H. V. Beasley, who was for the last three years attached to the New York office. This is the fifth field office opened by the Development and Reseach Division, in charge of A. J. Wadhams, vice-president.

Shell Union Oil Corp., New York, has appointed Harold L. Curtis as sales promotion and advertising manager. Mr. Curtis is replacing Fred C. Foy, resigned. Harry J. Underwood, formerly division manager at Philadelphia, is replacing Mr. Curtis as manager of the Metropolitan division.

Power Piping Division of Blaw-Knox Co., Pittsburgh, Pa., has opened a southern sales office in the Candler Building, Atlanta, Ga. O'Earl Kearney, who has had extensive experience in the power plant and industrial piping fields during the last 20 years, will be in charge.



AIR CONDITIONED WEAVE ROOM—A 30% cut in air-conditioning power cost, combined with automatic control of temperature and humidity, has been achieved by Hathaway Mfg. Co., New Bedford, Mass., by utilizing central station systems designed and installed by Parks-Cramer Co., Fitchburg, Mass. With these systems 659 tons of air per hour is washed and conditioned to furnish "Certified Climate" for the weaving of high-quality rayon fabrics. In rayon weaving, fluctuations in temperature and humidity conditions upset both loom adjustments and loom operation. Hathaway is weaving rayon at 170 picks a minute, and its looms are operating at 95% efficiency. The hygroscopic materials in the shuttles and related parts make it necessary to keep uniform temperature and humidity conditions in order to operate at such a high efficiency. The automatic regulation not only maintains the conditions desired, but enables advantage to be taken of the fact that full capacity is used only when conditions require it, thus reducing operating cost.

National Oil Products Co., Harrison, N. J., has elected Charles P. Gulick, founder and former president, to the newly created office of chairman of the board. John H. Barton, previously vice-president, was elected president, and Thomas A. Printon, former general sales manager of the Industrial Division, was elected vice-president in charge of industrial sales.

James Talcott, Inc., textile and general factors, New York, have announced that the business of Barnard, Phillips Factors, Inc., for several years refactored by them, will now be conducted as a division of the Talcott organization.

Connecticut Blower Co., Hartford, Conn., through Charles H. Feeney, general manager, has appointed two additional sales engineers: Julius Lamparzyk of Cleveland, Ohio, for exclusive sales in the State of Ohio; and Arthur Folston of Louisville, for exclusive sales in the State of Kentucky.

Allegheny Steel Co. and Ludlum Steel Co., both specialists in alloy steels, are cooperating with the New York Museum of Science and Industry in presenting at the museum in Rockefeller Center, a new exhibit known as "Steels of Today and Tomorrow." The exhibit shows the public the many new and expanding uses of steel and forecasts some of the expected developments that offer opportunities for stimulating recovery. Hiland G. Batcheller, president of Ludlum, at the opening June 15, pointed out that the U. S. Department of Commerce figures just issued on steel production since 1885 show average annual growth of 7.2% as compared with 4.3% in manufacturing generally, and 3.7% in the country's total production; while the country's population averaged an annual growth of only 1.9%. The exhibit shows stainless steel, tool, carbon and other alloy steels, along with fabricating and welding methods.

American Engineering Co., has appointed Robert T. Forbes, Boston, Mass., as its representative in the New England territory for the A-E-CO Taylor stoker unit.

Sulphonated Oil Manufacturers Association held its spring outing at Seaview Golf Club, Absecon, N. J., on June 1 and 2. Forty members of the association and their friends attended. Fred Scholler was chairman of the outing. Winners in the golf tournament follow: Members' low net, E. S. (Ted) Atkinson; Low

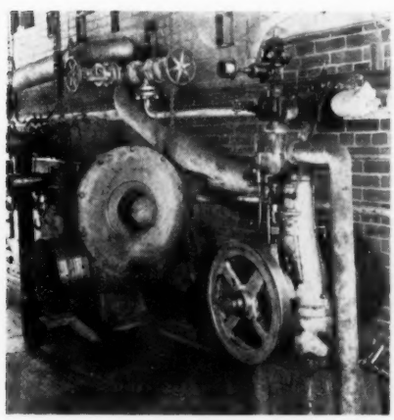
net for visitors, C. V. Davis. Other members winning prizes were John McChesney, A. E. Jones, Jr., L. O. Koons, A. J. Royce, J. C. Cadmus, Leon P. Brick, Chas. Ehrengart, and A. B. McCarty; visitors sharing in the awards were K. M. Dillabaugh, M. J. McCarthy, E. A. Robison, T. H. Gill, Wm. Bertolet, A. Mittendorf, A. A. Underwood, Fred Babcock, G. E. Olsen, E. J. Healey, J. C. Kay and others.

Timken Roller Bearing Co., has appointed David T. Marvel as manager of tube sales, in full charge of the sale of all forms of Timken seamless steel tubing. His headquarters will be at the main office in Canton, Ohio.

Fairbanks, Morse & Co., Chicago, has appointed A. C. Howard as general manager of the company's Beloit, Wis., plant. This position formerly was held by A. E. Ashcraft in addition to his function as vice-president in charge of all Fairbanks-Morse factories in the United States and Canada.

Leipzig (Germany) **Trade Fair** will hold its 1980th session from Aug. 28, to Sept. 1, inclusive. It will comprise some 6,000 exhibits of the newest products of 32 countries.

Celluloid Corp., has transferred its New England headquarters from Worcester to the Foster Building, Leominster, Mass., effective as of July 1.



SAVES POWER COSTS—Power costs for driving draft fan and stoker at plant of Magee Carpet Co., Bloomsburg, Pa., were reduced 57% by installation of Troy Engine & Machine Co. 3¼ x 4 steam engine. The engine operates 4,380 hr. per year at a total annual cost—including depreciation, maintenance, steam chargeable to engine, etc.—of $67.77, compared with a total annual motor cost—including purchased current at 1¼c. per kw.-hr.—of $159.10. Savings equal 25% return per year on the investment; boiler horsepower of the engine is 2.4 at 300 r.p.m.; steam pressure, 150-lb. gage; super heat, 100°F.; feed-water temperature, 210°F.; cost of steam, 15c. per 1,000 lb.; steam consumption, 136 lb. per hr.; heat left in exhaust, 92%; heat chargeable to engine, 8%; power cost at stoker shaft equivalent to 0.7c. per kw.-hr.

OPEN HOUSE—Calco Chemical Co., Inc., Bound Brook, N. J., recently held an open house for residents of the surrounding community. Over 2,000 visitors were shown through various parts of the plant and laboratories, including the Azo plant, where a demonstration was given of the manufacture of Orange Y Extra Conc. and its application to wool. In the Maintenance Building booths were erected showing how Calco enters into the daily life of the community, not only through the products made, but also through the wages paid by the company. The open house was held in conjunction with the 250th anniversary celebration of the founding of Somerset County. Calco executives feel that the open house was an unqualified success and believe that this method of promoting public relations will become more common and will eventually prove to be a real factor in furthering better understanding of business by the public at large.

Trundle Engineering Co., Cleveland, Ohio, has appointed Douglass W. Peabody, as its representative in the district embracing Georgia, Alabama, Tennessee, North and South Carolina. He resides in Atlanta.

Babcock & Wilcox Tube Co., New York, has appointed J. J. B. Rutherford, formerly of the research laboratory of U. S. Steel Corp., to its staff as research metallurgist.

Acme Steel Co., Chicago, has appointed George P. Howell as district manager of the Strip Steel Division for Wisconsin and Upper Michigan.

Breuer Electric Mfg. Co., formerly at 852 Blackhawk Street, Chicago, has removed to a new modern two-story plant and office building covering 20,000 sq. ft. of floor space, located at 5100 N. Ravenswood Ave., Chicago.

Scott & Williams, Inc., New York, have leased office space in the building at 40 Worth St., and will remove to new location from present offices at 366 Broadway, on or about Aug. 1, when alterations now under way have been completed.

Draper Corp., Hopedale, Mass., has awarded general contract to Bathelt Construction Co., 6 Newton St., Holyoke, Mass., for erection of two one-story additions to plant, 30 x 130 ft., and 30 x 520 ft., respectively, to be used for a storage and distributing building, and as an iron foundry, in order noted. Structures will cost over $85,000, with equipment. John A. Stevens Co., Inc., Lowell, Mass., is engineer.

General Refractories Co., Philadelphia, has added the following to its list of distributors: Slip-Not Belting Co., Kingsport, Tenn.; New England Brick Co., Boston, Mass.

Cleveland (Ohio) **Worm & Gear** Co., has appointed A. J. Jennings as general sales manager. He has served for some years in that capacity with the affiliated company, Farval Corp., manufacturers of centralized lubrication systems, and will continue in that duty.

Marlowe-Van Loan Corp., High Point, N. C., has opened a branch in Hickory, N. C., to supply dyes, textile oils and chemicals in western North Carolina and parts of Tennessee. The Hickory branch includes a laboratory and a warehouse.

Proctor Chemical Co., Inc., of Salisbury, N. C., a new $100,000 corporation, will be headed by E. E. Proctor, formerly of Providence, R. I. The new firm will handle textile chemicals.

Air Conditioning Supply Co., Cleveland, Ohio, has moved to new and larger quarters at 4060 Superior Ave.

FREE FOR THE ASKING

READERS interested in literature reviewed on this page may secure copies by writing to TEXTILE WORLD, 330 West 42d St., New York, giving their company connection.

V-Belts. Gates Rubber Co. May, 1938 issue of *Industrial News* contains article on application of company's products in a southern cotton mill.

Stainless Steel. Republic Steel Corp. Booklet describes welding of Enduro stainless steel by many different methods.

Air Conditioning. Parks-Cramer Co. June, 1938 issue of *Parks' Parables* contains article on air conditioning of weave room at Hathaway Mfg. Co.

Sewing Machinery. Union Special Machine Co. June, 1938 issue of *The Needle's Eye* contains articles on glass fabrics and on lingerie-mill lighting.

Paint. Skybryte Co. Catalog rates various colors on the basis of efficiency and comfort.

Hand Trucks. Fairbanks Co. Catalog No. 51 describes company's line of hand trucks.

Weaving Equipment. Draper Corp. June issue of *Cotton Chats* describes how larger yarn beams save 35 to 100% on investment.

Throwing Machinery. Atwood Machine Co. May, 1938 issue of *Atwood Twists* contains article on balanced, large-package throwing.

Lubrication. Standard Oil Co. May, 1938 issue of *Esso Oilways* contains articles on mattress and hosiery manufacturing machinery.

Crayons. American Crayon Co. Color charts show company's complete line of textile mill crayons.

Stainless Steel. American Rolling Mill Co. Booklet titled "Dyestuffs and Stainless Are Friendly Enemies" describes use of company's products in textile equipment.

Throwing Equipment. Industrial Machine Corp. Leaflet describes company's machinery which doubles, twists, and cones in one operation.

Corrosion - Resistant Equipment. Haveg Corp. Bulletin 0-1 describes company's corrosion-resistant chemical equipment for textile and other industries.

Steel Construction. Tennessee Coal, Iron & Railroad Co. Booklet describes "Steel Clad" construction for interiors and exteriors of homes and other buildings.

Dyes. Ciba Co., Inc. May issue of *Ciba Review* contains articles on dyeing in ancient times, methods of preventing lime soap faults, and shades obtainable with Chlorantine Fast Green 5GLL.

Looms. Crompton & Knowles Loom Works. Issue No. 4 of *C & K Photo News* describes and illustrates loom manufacture; shows several views of mill modernization.

Sizing Equipment. Charles B. Johnson. April and May issues of *Rayon Warp Sizing Specialist* contain articles on positive stretch control and effects of synthetic resins on spun rayon fabrics.

Control Instruments. American Schaeffer & Budenberg Instrument Division of Manning, Maxwell & Moore, Inc. 12-page booklet describes company's equipment for controlling slashers, bleach kiers, size boxes, etc.

Loom Drive. Dodge Manufacturing Corp. Bulletin No. A236 describes company's loom drive; contains diagrammatic sketch pointing out various features.

Stainless Steel Equipment. S. Blickman, Inc. Folder describes and illustrates company's fabrication of dyeing and finishing equipment of stainless steel.

Electrical Equipment. General Electric Co. Booklet GEA-2571B describes reconditioning of flooded electric equipment. Other late releases include: GEA-2426A, covering outdoor oil-blast circuit breakers; GEA-1283A, covering cam-operated master switches; GEA-2823, describing commercial testing instruments; GEA-841H, on magnetic switches; GEA-1437C, describing gear-motors; GEA-1587C, on combination magnetic switches; GEA-432C, describing direct-current generators and exciters; and GEA-2889, covering magnetic motor-starting switches.

Lubricating Oil. Gulf Refining Co. Folder traces development of hosiery knitting machinery and methods; points out many operations in which proper lubrication is essential; is illustrated with numerous original and unusual photographs showing major operations in manufacture of full-fashioned hosiery.

Detergents. National Aniline & Chemical Co., Inc. 40-page booklet describes properties and applications of Nacconol NR, a surface-active, organic detergent. Includes information on properties; uses in commercial processing, and household and institutional cleaning.

Synthetic Resins. Rohm & Haas Co., Inc. Booklet describes company's complete range of synthetic resins for finishing textiles; includes data on effect of resins on fabrics, methods of application, available grades, recommended concentrations, etc.

pH Indicator. Leeds & Northrup Co. 12-page bulletin describes and illustrates company's portable pH indicator.

Speed-Control Units. Reeves Pulley Co. Pamphlet illustrates and gives details of enclosed design, variable-speed transmission equipment manufactured by this company.

Cleaners and Disinfectants. Geo. B. Robbins Disinfectant Co. Booklet pictures, and tells uses of, 39 products manufactured by this company.

Economizers. Combustion Engineering Co., Inc. Catalog No. EE-5 describes and illustrates designs and details of fin-tube economizers.

TEXTILE WORLD ANALYST

TEXTILE WORLD'S index of textile mill activity for the first five months of 1938 showed a decline of approximately 40% from the corresponding period of 1937, and of 19% from the first five months of a "normal" year (1924-31 average). Naturally this does not reflect any of the improved feeling which set in late in June—nor will the June mill-activity statistics, when they are available. However, it is probable that the showing for the last six months of the year will be above the last half of 1937, and thus wipe out part of the deficit noted above.

TEXTILE WORLD'S compilation of manufacturing margins for carded cotton fabrics show that in June the former dropped until the sharp improvement at the end of the month forced a sharp snap-back. However the average for June was below May. (Table I.) Since yarn prices were not changed during most of the month, in the face of a rising raw material market, yarn margins went steadily down during the month but snapped back at the end. (Table II.)

TEXTILE WORLD'S price index numbers for June showed slight drops in several of the series.

Textile World's Price Index Numbers

STARTING with January, 1936, TEXTILE WORLD has revised its price index numbers to a 1923-25 base, to correspond with current statistical practices. Figures on cotton manufactures, Aug. 1, 1933 to Jan. 6, 1936 include processing tax.

Date	Cotton Index Numbers: Cotton	Cotton	Yarns	Gray	Colored	Wool Index Numbers: Wool	Tops	Yarns	Cloth	Silk Index Raw-Silk	Rayon Index
1923-25	100	100	100	100	100	100	100	100	100	100	100
1930 ave.	50	61	61	72		58	61	72	90	109	46
1931 ave.	32	68	46	59		46	49	59	71	32	32
1932 ave.	24	37	37	60		36	40	52	57	21	28
1933 ave.	39	56	55	50		53	59	62	80	21	26
1934 ave.	61	67	70	62		63	70	75	91	17	25
1935 ave.	60	68	67	69		56	58	70	88	22	24
1936 ave.	45	63	63	68		72	78	76	93	23	25
July 1936	48	61	61	70		69	75	75	90	22	26
Aug. 1936	45	62	63	70		70	75	74	90	23	26
Sept. 1936	45	62	63	70		70	75	74	90	22	26
Oct. 1936	45	64	67	71		71	75	74	92	23	26
Nov. 1936	45	65	74	72		78	82	76	100	26	26
Dec. 1936	48	72	80	74		87	90	84	105	26	26
1937 ave.	42	65	67	74		79	82	85	107	25	27
Jan. 1937	48	73	81	76		90	93	88	108	27	26
Feb. 1937	48	74	78	76		90	92	90	108	27	26
Mar. 1937	53	78	80	78		87	88	90	112	27	26
Apr. 1937	53	80	82	80		84	86	90	112	27	27
May 1937	49	75	76	78		82	84	89	112	24	27
June 1937	47	70	71	78		78	82	88	112	25	27
July 1937	45	65	67	78		78	82	88	112	26	27
Aug. 1937	37	59	62	78		80	82	88	112	25	27
Sept. 1937	33	54	56	73		78	81	87	107	25	27
Oct. 1937	31	51	53	67		73	76	82	100	23	27
Nov. 1937	29	48	50	61		66	68	74	97	22	27
Dec. 1937	30	47	49	60		60	64	70	97	21	27
Jan. 1938	32	47	49	62		57	63	68	97	21	26
Feb. 1938	33	47	50	62		53	60	67	97	22	23
Mar. 1938	33	47	50	62		51	58	66	88	22	23
Apr. 1938	32	46	49	62		51	57	66	80	22	23
May 1938	31	46	48	62		50	57	64	80	21	22
June, 1938	31	45	47	61		49	57	64	80	21	21

Fabric and yarn manufacturing margins follow:

TABLE I. CARDED FABRIC MARGIN

Date	Margin in cents	Date	Margin in cents
August, 1933..	21.4	May, 1936....	14.3
October, 1933..	19.1	July, 1936....	16.9
January, 1934.	18.4	August, 1936..	18.0
April, 1934...	17.6	September, 1936	18.4
July, 1934....	15.3	October, 1936.	21.2
August, 1934..	16.6	November, 1936	25.4
September, 1934	18.6	December, 1936	28.1
October, 1934..	17.4	January, 1937.	28.6
November, 1934	15.8	February, 1937	26.2
December, 1934	16.2	March, 1937...	25.6
January, 1935.	16.2	May, 1937....	23.1
February, 1935.	16.0	June, 1937....	21.2
March, 1935...	15.9	July, 1937....	20.1
April, 1935....	16.1	August, 1937..	19.4
May, 1935....	16.0	September, 1937	18.1
June, 1935....	16.5	October, 1937..	17.3
July, 1935....	15.2	November, 1937	16.9
August, 1935..	17.1	December, 1937	15.7
September, 1935	17.9	February, 1938.	16.2
October, 1935 .	17.7	March, 1938..	16.1
November, 1935	16.4	April, 1938...	15.9
December, 1935	16.2	May, 1938.....	15.9
January, 1936.	17.2	June, 1938....	15.2
February, 1936	16.5	June 1...	15.7
March, 1936...	15.5	June 8...	15.3
April, 1936....	14.3	June 15...	14.6
June, 1936....	15.3	June 22...	14.8
		June 29...	15.6

TABLE II. CARDED YARN MARGIN

Date	Margin in cents	Date	Margin in cents
August, 1933..	23.5	July, 1936.....	15.0
October, 1933..	20.0	August, 1936..	16.5
January, 1934.	18.3	September, 1936	16.3
April, 1934....	15.9	October, 1936 .	17.2
July, 1934.....	14.6	November, 1936	18.0
August, 1934..	15.3	December, 1936	20.6
September, 1934	15.6	January, 1937.	20.8
October, 1934..	14.6	February, 1937.	21.2
November, 1934	13.3	March, 1937...	21.3
December, 1934.	13.5	April, 1937...	22.6
January, 1935.	13.5	May, 1937....	21.2
February, 1935	13.9	June, 1937....	19.3
March, 1935..	14.4	July, 1937....	17.8
April, 1935...	14.1	August, 1937..	17.2
May, 1935....	13.8	September, 1937	16.1
June, 1935....	14.5	October, 1937..	15.3
July, 1935....	14.3	November, 1937	14.7
August, 1935..	15.3	December, 1937	13.7
September, 1935	15.4	January, 1938.	13.5
October, 1935 .	15.8	February, 1938	12.9
November, 1935	16.3	March, 1938..	12.9
December, 1935	16.3	April, 1938...	12.7
January, 1936.	18.4	May, 1938.....	12.8
February, 1936	17.5	June, 1938....	12.9
March, 1936..	16.3	June 1...	13.2
April, 1936....	15.6	June 8...	13.1
May, 1936.....	14.8	June 15...	12.7
June, 1936....	14.6	June 22...	12.3
		June 29...	13.1

Key wool prices with usual comparisons follow:

	July 1, 1938	June 1, 1938	July 1, 1937	July 1, 1936
Fine and fine med. territory	$0.63	$0.61	$0.95	$0.84
Ohio ⅜s	.26	.25	.44	.38
Tops fine 64-66s	.88	.86	1.18	1.08
Average ⅜s	.72	.70	1.03	.96
High ⅜	.65	.63	.98	.90
Noils, fine	.58	.58	.75	.68
⅜	.43	.43	.58	.54
2-40s 60s wstd yarn.	1.34½	1.32	1.80	1.55
2-32s 56s wstd yarn.	1.14½	1.12	....	....
8020 serge	1.65	1.65	2.27½	1.95

Current statistics on wool consumption and mill activity:

	May (4 weeks)	April (5 weeks)
Wool consumed, clean equiv..		
Apparel wool, lb	12,944,000	12,625,000
Carpet wool, lb	3,036,000	3,340,000
Machinery activity (40 hr. shift)		
Looms (50 in. and wider)	49.9%	39.4%
Carpet looms	33.2%	43.3%
Combs	80.3%	60.9%
Worsted spindles	52.4%	38.4%
Woolen spindles	54.2%	45.1%

Key rayon prices and statistics follow:

Prices	July 1, 1938	June 1, 1938	July 1, 1937	July 1, 1936
Viscose process				
75 denier (18-30 fils.)	$0.71	$0.71	$0.93	$0.90
100 denier (40 fils.)	.65	.65	.82	.79
150 denier (40 fils.)	.49	.49	.63	.60
Acetate process				
150 denier	.52	.52	.63	.60
Cupra. process				
150 denier (113 fils.)	.50	.50	.68	.65
Rayon staple 1½, 3 and 5½ denier viscose	.25	.25	.28	*

Indices of Deliveries*

Statistics	June	May	April
In year, 1938	473	445	445
In year, 1937	693	724	702

*Rayon Organon. Covers 100% data for all processes 1923 to date. Note that acetate is now included. Shipments index for all rayon 1923-25 = 100.

Key silk prices and statistics follow:

Prices	July 1, 1938	June 1, 1938	July 1, 1937	July 1, 1936
Crack XX 13/15 wh. 78%	$1.81	$1.60	$1.91½	$1.65
Tram, 5thd Japan 85%	2.45	2.27	2.74	2.27
Tram, Crack XX 78%	2.37½	2.20	2.52	2.20
60s-2, spun silk	3.05	3.15	3.15	2.85

Statistics	Imports	Approximate deliveries	Stocks at warehouses
June, 1938	38,933	31,492	44,457
May, 1938	24,248	28,687	37,016
April, 1938	30,510	33,381	41,455

Key cotton prices with usual comparisons follow:

	July 1, 1938	June 1, 1938	July 1, 1937	July 1, 1936
Spot Cotton, N. Y.	9.01	7.89	12.62	12.50
Ditto, high previous month.	8.85	8.76	13.25	12.49
Ditto, low previous month.	7.84	7.71	12.36	11.77
10s hosiery cones	18	17	27	23½
10s/2 carded skeins	18½	17½	26	24
20s/2 carded peeler warps.	20½	19½	30½	26½
60s/2 combed peeler warps.	48	47	60	55
60s/2 mercerized cones	63	63	79	66
37 in., 3-yd. drill	6¾	6¾	10¼	8 5/16
38½ in. 64 x 60s	4¾	4½	6½	5½
36-in. 4-yd. 56 x 60s	5 1/16	5½	8 1/16	6 7/16
Denim, 2.20s	11	11	16	13

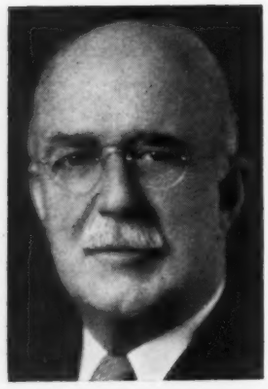
Statistics of particular interest to cotton manufacturers concerning operation and the raw material situation:

	May	April
Spindle activity (% capacity)	89.3	85.7
Spindle activity (millions of hours)	5,449	8,266
Cotton consumed (bales)	425,684	414,392
Cotton exported (bales)	193,000	377,000
Cotton imported (bales)	20,038	19,142

Rayon fabric shipment index reported by the National Rayon Weavers Association and the National Federation of Textiles, follows:

1934 = 100	May '37	April '38	May '38
Taffetas, Twills, Linings and Other Staples	260	199	165
Dress Goods, Novelties and Other Fancies	88	83	73
Total	152	122	103

THE PERSONAL PAGE



Franklin W. Hobbs

Franklin W. Hobbs was re-appointed to the board of directors of the Textile Foundation by President Roosevelt for another four years beginning June 11, 1938. President Hoover appointed Mr. Hobbs the first time in 1930 and President Roosevelt re-appointed him in 1934. Mr. Hobbs is chairman of the board of directors. The other two industry members of the board are Stuart W. Cramer and Frank D. Cheney, whose terms expire one and two years from now, respectively.

Robert J. Murray, manager of the New York office of Weil Bros., was elected president of the Wool Top Futures Exchange and vice-president of the New York Cotton Exchange at the annual election last month. **Joseph R. Walker** is first vice-president and **Max W. Scoehr** is second vice-president.

Hugh McConnell has been elected president and general manager of the Hampton Co., Easthampton, Mass., succeeding his father, Thomas McConnell, who died recently. **Ernst E. Mensel** was elected vice-president and treasurer.

Philip H. Rosenberg, president of the American Rug & Carpet Co., New York, has been elected president of the Associated Floor Covering Distributors, Inc., which is the local organization of wholesalers.

Paul B. Welles, general sales manager, Pequot Mills, Salem, Mass., presided at the company's annual sales conference held in Salem, June 9 and 10. **Rudolph C. Dick,** treasurer and general manager, reported optimistically upon the future despite currently unfavorable conditions. The guest speaker at the banquet was **Ralph B. Wilson,** vice-president of Babson's Reports, Inc.

Mildred G. Barnwell has been elected executive secretary of the Southern Combed Yarn Spinners Association, Gastonia, N. C., to succeed **Fred M. Allen,** who resigned April 1. Mrs. Barnwell has been executive assistant of the association since 1931. During that time she has been active in promotion work and in the development of statistics for the combed yarn group. Under Mrs. Barnwell's direction, both of these activities will be continued and expanded. She is

Mildred G. Barnwell

the author of many articles which have appeared in textile publications, and was the secretary of the Wear Cotton Movement in 1931, one of the first programs of that type.

W. W. Stewart, vice-president of Southeastern Cottons, Inc., New York, was toastmaster at a luncheon tendered by that company to Charles Yates of Atlanta who had just returned from England after winning the British amateur golf championship. The luncheon was given at the Arkwright Club, New York, on June 18. Mr. Yates is a personal friend of a number of the executives of the company.

Mrs. Minna Hall Carothers, director of the department of retail sales promotion, Associated Wool Industries, spoke before the Westchester County Home Show at White Plains, N. Y., on June 11 on "Some Historical Facts About Wool."

William VanD. Jewett, vice-president and director of Farr Alpaca Co., Holyoke, Mass., has resigned. Mr. Jewett has been in charge of merchandising and manufacturing.

Bernard Brunton, managing director of D. W. Martin & Sons, London fur dealers and dyers, has been elected chairman of the board of management of the British Colour Council, succeeding **C. B. Gwynne** of the Bradford Dyers Association, Ltd.

A. J. Evans, Jr., has become president of the Fort Valley (Ga.) Knitting Mills.

Dr. B. E. Geer, former president and treasurer of Judson Mills, and Southern Worsted Corp., Greenville, S. C., has resigned as president of Furman University in Greenville, which post he has held since July 15, 1933.

George A. Sloan, former president of Cotton-Textile Institute, has been elected a member of the Board of Trustees of Vanderbilt University, Nashville, Tenn., his alma mater.

F. Gordon Cobb, active for some years in the S.T.A., lately of Greensboro, N. C., and his son, **Joe,** left recently for Brazil to make a survey in regard to the erection of a yarn mill there.

Herman Cone, elected president of Proximity Mfg. Co. (as reported last month) after serving 21 years as treasurer of the company.

Dr. Wm. P. Jacobs, secretary and treasurer of the Cotton Manufacturers' Association of South Carolina, and president of the Presbyterian College at Clinton, S. C., has been made an honorary lifetime member of the Iota Chapter of Phi Psi, national honor textile fraternity.

W. W. Carr, an official of the Pepperton (Ga.) Cotton Mills, has been elected mayor of that town for the 21st consecutive year.

R. C. Harvey, president of the R. C. Harvey Co., Waltham, Mass., wool house, has also been made treasurer of that organization, succeeding the late Arthur L. Norton.

A. B. Carter, president and treasurer of the Carter Mills, No. 2, Taylorsville, N. C., has been elected president of the newly organized Taylorsville Rotary Club.

Forrest W. Phillips has resigned from Styles-Worrall, Inc., and R. H. Styles Co., in order to take up his new sales duties with Rex Rayon & Thread Co., Inc., New York.

Don H. Curtis, formerly agent of the Willimantic (Conn.) Mills of the American Thread Co., has accepted a position as general manager of the Summit Thread Co., East Hampton, beginning July 1. **W. J. Martin,** vice-president and general manager will continue as vice-president. **C. E. Buffum** has been elected treasurer of company.

E. B. Laurens, formerly with Beaumont Mfg. Co., Spartanburg, S. C., has become overseer of weaving at Drayton Mills, also in Spartanburg.

S. J. Adams, formerly superintendent of Spencer Mills, Inc., Spindale, N. C., has accepted a position with Burlington (N. C.) Mills Co.

J. F. Bridges is now overseer of carding at West Point Mfg. Co., Fairfax (Ala.) Mills Division, filling the position made vacant by the death of **J. L. Bowles. B. G. Miller** has succeeded Mr. Bridges as second hand.

J. F. Chalmers, superintendent of Greenwood (S. C.)

E. T. Pickard, Chief, Textile Division, Department of Commerce, and secretary, Textile Foundation, who made his first appearance after illness of six months at luncheon June 29 when report on "Vertical Integration in the Textile Industries" was presented. *(See page 41.)*

Cotton Mills has been elected president of the Greenwood Lions Club.

J. H. Rountree, formerly office manager at Covington (Va.) Weaving Co., has become manager of Roanoke Weaving Co., Vinton, Va.

Alfred O. Haigh has been appointed sole representative of the Clifton Yarn Mills, Clifton Heights, Pa., in the New England States.

Joseph A. Amato, credit manager of Chopak Textile Co., New York, has joined the credit department of James Talcott, Inc., New York.

Nettleton P. Murphy has been appointed sales representative in North and South Carolina and Virginia for the Standard-Coosa-Thatcher Co., Chattanooga, Tenn.

H. W. Bottomley of Howland, Croft Sons & Co., Philadelphia, was the winner of the annual golf tournament of the Woolen & Worsted Yarn Credit group held at the Plymouth Country Club, Norristown, Pa. last month. **L. E. Shemery,** of James Lees & Sons Co. was the runner-up.

William A. O'Keefe, sales manager, Topton (Pa.) Rug Mfg. Co., and of Red Hill (Pa.) Rug Co., has resigned. He has been connected with the organization of those two companies for the last 20 years.

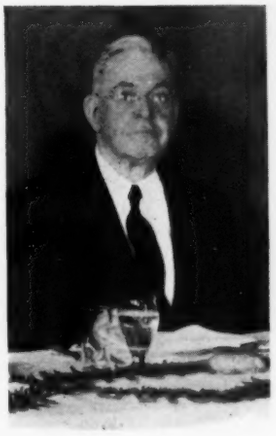
Walter A. Hendrickson has been promoted from superintendent to manager of production at National Knitting Co., Milwaukee, Wis. He succeeds **Daniel F. Byrnes,** who was vice-president and general manager of the parent company, the Bradley Knitting Co., until his resignation on April 30.

Paul Friedberg, recently with Duplan Silk Corp., has become associated with the Mill Merchandise Co., New York, in the capacity of sales manager and stylist.

Graemme G. Whytlaw, associated for the last ten years as salesman with the Franklin Rayon Co., Providence, R. I., resigned his connection with that firm on July 1.

Textile Calendar

- *National Exposition of Power and Mechanical Engineering, thirteenth show, Grand Central Palace, New York, Dec. 5 to 10, 1938.*
- *Southern Textile Exposition, thirteenth show, Textile Hall, Greenville, S. C., April 3 to 8, 1939.*



John M. Botts, senior partner in the hosiery distributing firm of Harrington & Waring, New York, was honor guest at a testimonial dinner in New York, June 27. The event, attended by 150 leading manufacturers, marked Mr. Botts' completion of 50 years in the hosiery field. He entered Harrington & Waring's employ as a boy in June, 1888. A scroll, signed by the diners and presented to Mr. Botts, paid tribute to his character, integrity and contributions to the industry.

James G. Hanes has retired as president of Hanes Hosiery Mills, Winston-Salem, N. C., and is now chairman of the board. **James N. Weeks,** formerly general manager, is now president.

Joseph S. Lord, Sr., started his 64th year in the wool business on July 11. He is 75 years old and with Chas. J. Webb & Sons Co., Philadelphia.

J. C. Cloninger has been appointed manager of Cedartown (Ga.) Yarn Mill. It is understood he will continue as general manager of York (S. C.) plant of Neely Mfg. Co.

Melvin B. Bowman has resigned as agent of the Beaver Brook mill of American Woolen Co., Collinsville, Mass., to become general manager of the Slingsby Mfg. Co., Brantford, Ontario. He was formerly employed in Brantford.

Walter Haene has been appointed superintendent of the Concord (N. C.) Silk Throwing Co.

Guy Fuller is now superintendent of Juliette (Ga.) Milling Co.

J. M. Bruner, formerly superintendent of the Oconee Mills Co., Westminster, N. C., and associated with that mill for 28 years, has been appointed County Comptroller for Oconee County.

James F. Kenny has resigned as treasurer of the

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SILK, RAYON, FINE COTTON
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Maximum Efficiency
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Onondaga Silk Co., Easton, Pa.

R. V. S. Salembier of Salembier & Villate, New York, won the low gross prize at the annual golf tournament of the Silk Golf League at the North Hill Golf Club last month.

Ray Greene, American Bemberg Corp., was elected president of the New England Rayon Yarn Peddlers' Association at the annual outing on June 11 at the Kittansett Country Club, New Bedford, Mass. The vice-president is **Robert F. Thayer,** American Viscose Corp.; secretary-treasurer, **Robert O'Blenis,** E. I. du Pont de Nemours & Co. Mr. Thayer won the golf tournament at the outing.

Elmer Haigh, comptroller of H. C. Aberle Co., Philadelphia, has resigned to take effect July 15.

J. W. Stuart is now superintendent of the Trio Mfg. Co., Forsythe, Ga.

Charles Kellog, who has been with Pacific Mills in the manufacture of insulating fabrics, is now with the Exeter (N. H.) Mfg. Co.

S. E. Rhodes has been appointed superintendent of the Blue Ridge Mountain Crafts which is soon to start operation at Luray, Va.

S. J. Adams has resigned as superintendent of the Spencer Corp., Spindale, N. C., to accept a similar position with the Burlington Mills Co.

L. F. Bledsoe has become superintendent of the cloth division of the Langdale, Ala., unit of the West Point Mfg. Co., succeeding **J. E. Caldwell,** resigned, who served for 30 years in that capacity.

J. F. Bridges is superintendent of carding at the Fairfax, Ala., unit of the West Point Mfg. Co., succeeding the late J. L. Bowles. **B. G. Miller** has been appointed assistant in this department, succeeding Mr. Bridges.

Irving Alexander is in charge of the New York sales office of Grosvenordale (Conn.) Co., which is now working on new rayon lines.

Harold E. McCormack, a graduate of New Bedford Textile School in the general cotton course, has entered the employ of Heineman & Seideman Co., textile brokers, New York.

Charles W. Figgins, former plant engineer of the National Silk Spinning Co., New Bedford, Mass., has left to join the Edwards Mfg. Co., Augusta, Me., in a similar capacity.

John L. Fawcett, chairman, assisted by **Adam Bayreuther, Thomas Gourley, Malcolm H. Richardson** and **John E. Foster,** were named by **Edward L. Murphy, Jr.,** president of the New Bedford Textile School Alumni, as committee in charge of the annual clambake of the Alumni at Dan's Pavilion, New Bedford, Mass., June 11.

G. E. Hopkins, technical director of the Bigelow-Sanford Carpet Co., Thompsonville, Conn., has been named a member of the executive committee of the newly organized Industrial Research Executives.

C. B. Wall, formerly prominently associated with the Winville Corp., Winder, Ga., has become associated with C. L. Upchurch & Sons, Inc., Athens, Ga., and is located at the company's warehouse and plant at Bogart, Ga., in charge of the mechanical department.

Frank R. Love, for seven years with the North American Rayon Corp., Elizabethton, Tenn., has been transferred to the southern district sales office of the company, Greensboro, N. C. He was graduated from the textile school of the North Carolina State College at Raleigh, N. C.

Jesse Bottomley, manager of the American Woolen Co's, Fulton, N. Y., plant, has become resident manager of the Shawsheen (Mass.) mill of the American Woolen Co. He will be succeeded at the Fulton plant by **William Midgley** of Providence, R. I.

L. D. Smart recently assumed his new duties as superintendent of the Franklinton (N. C.) plant of Vamoco Mills.

Carl E. Morgan, an official of the Keowee Textile Corp., Greenville, S. C., has been chosen president of the Greenville Rotary Club.

Wm. Fortson, formerly of Philadelphia, Pa., is manager of the newly established hosiery mill at Dayton, Tenn., which is being operated by **Walter Schroeder,** formerly of Athens, Tenn.

Guy Fuller has accepted the superintendency of the Juliette (Ga.) Milling Co.

Charles B. Pegram, prominent textile official of Lenoir, N. C., has been elected president of the Lenoir Lions Club.

Willard F. Norton has resigned as manager of the new $75,000 recreational center of the E. I. du Pont de Nemours & Co., Waynesboro, Va., a position he accepted in April. No successor has been appointed.

Charles Vernor has become assistant superintendent of the Calhoun Mills, Calhoun Falls, S. C. He recently graduated from Clemson College.

Charles Boswell has been appointed superintendent of S. Y. W. Hosiery Mills, Inc., Burlington, N. C.

J. F. Allen has become superintendent of the Roseboro (N. C.) plant of the Hill Spinning Co.

W. M. Wilson has become superintendent of the Cherokee Cotton Mills, Woodstock, Ga.

R. C. Remmey is now secretary of Alabama Hosiery Mills, Decatur, Ala.

F. W. Keasler, formerly with S. Slater & Sons, Inc., Slater, S. C., is now overseer of weaving and slashing at Springs Cotton Mills, Gayle plant, Chester, S. C.

Robert C. Jeter has resigned as overseer of the cloth and sewing rooms at the Gayle plant of Springs Cotton Mills, Chester, S. C., and has been succeeded by **William M. James,** who will continue as overseer of the cloth room as well as taking over his new duties.

Howard Jackson, designer for the Margrace Mill, Kings Mountain, N. C., has been elected president of the Kings Mountain Lions Club, which has just been organized.

V. D. Snyder has resigned as overseer of weaving at Drayton Mill, Spartanburg, S. C., and has accepted a similar position with the Victor unit of the Victor-Monaghan Co., Greer, S. C.

J. E. Caldwell, formerly overseer of the cloth room of the West Point Mfg. Co., Langdale, Ala., plant, has resigned. He served in this capacity with the same mill for 30 years.

M. F. Springfield, formerly with the Drayton (S. C.) Mills as second hand in weaving, is now overseer of weaving at the Springs Cotton Mills, Kershaw, S. C.

W. M. Matlock, formerly secretary and superintendent of the Hickory (N. C.) Hosiery Mills, Inc., has gone to La-Follette, Tenn., where he and his brother, J. J. Matlock, are establishing a hosiery mill.

James L. Giblin of Arlington, N. J., has been appointed head of the designing department of the New Bedford (Mass.) Textile School. He succeeds **Samuel Holt,** resigned after 25 years as teacher. Mr. Giblin is a graduate of Bradford Durfee Textile School of Fall River, and for the last 10 years has been associated with the United States Testing Co., Hoboken, N. J.

Obituary

Thomas Hand Ball, aged 75, a manufacturer and broker of worsted yarns for many years in Philadelphia, died June 19. He was a past president of the National Association of Worsted & Woolen Spinners.

Leon Lilienfeld, aged 70, famous as a cellulose chemist, died in Milan, Italy, on June 6. He had previously lived in Vienna and achieved prominence by the development of "Lilienfeld Rayon."

Benjamin S. Agnew, aged 82, for 43 years prior to his retirement in 1926, sales representative of Borne, Scrymser Co., New York, died in Boston June 30.

Frank Foster Dodge, aged 53, chairman of the board, Atwood Machine Co., Stonington, Conn., died June 19, in Westerly (R.I.) Hospital.

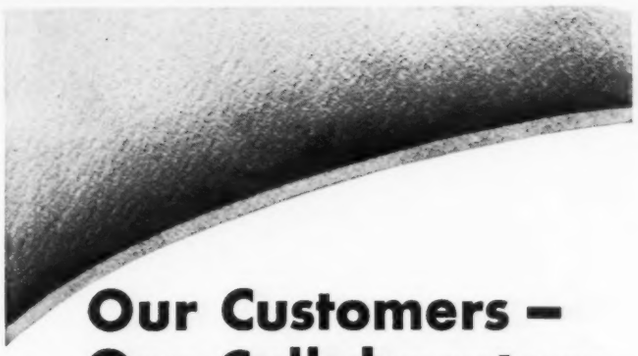
Edmund E. Blake, aged 66, for over 40 years a member of the managerial and engineering staff of the Saco-Lowell Shops, died June 22 in Portland, Me. He was a native of Boston, and well known throughout the textile industry for his many contributions to the art of cotton spinning. He had the faculty of quickly but accurately analyzing difficult mechanical problems, which enabled him to direct the development of long draft and con-

Edmund E. Blake

trolled draft through its difficult early stages. Mr. Blake's entire business life was devoted to the Saco-Lowell Shops of which he was chief engineer for the last decade.

Charles E. Leippe, aged 78, for many years head of the Reading (Pa.) Knitting Mills ended his life on June 17. He had been for three terms a president of the National Association of Hosiery Manufacturers over 20 years ago. He was a director of various companies in the Central Pennsylvania area.

Harold P. Harrower, aged 41, president of L. E. Harrower & Son, Inc., Amsterdam, N. Y., died recently.



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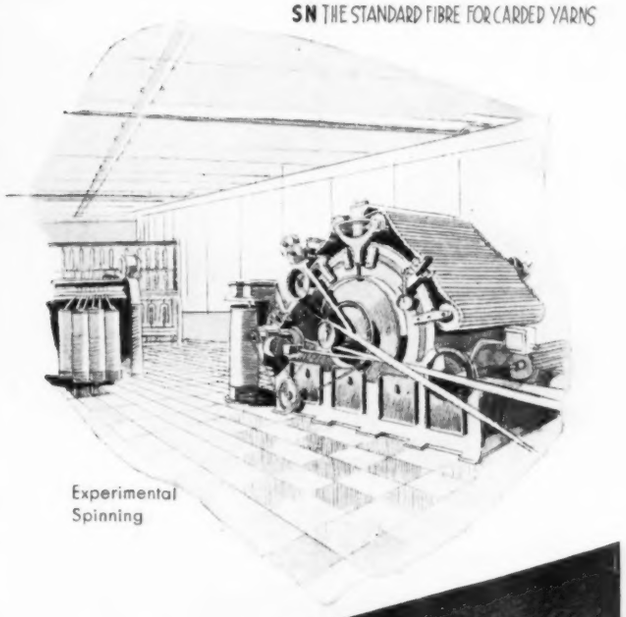
German Staple Fibre

BR FOR PURE 3 CYL. YARNS
BF FOR PURE 3 CYL. FINE YARNS
BK CURL FIBRE FOR THE COTTON SPINNER
KN NORMAL FIBRES FOR WORSTEDS
TW FIBRES FOR CARPET-MAKING INDUSTRY
SN THE STANDARD FIBRE FOR CARDED YARNS



Experimental Spinning

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OVER 30 YEARS

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Dr. Homer Gage

Dr. Homer Gage, aged 77, president of Crompton & Knowles Loom Works, Worcester, Mass., since 1920, Commander of the French Legion of Honor, former practising surgeon of nation-wide repute, and noted philanthropist, died suddenly at his summer home in Shrewsbury, Mass., July 3. After a career of great distinction in surgery, he retired from operating practice and ecame head of the loom works of which he had been a director since 1900. He was a director in many enterprises including the Graton & Knight Mfg. Co., Worcester, and the First National Bank of Boston. He was twice a member of the Harvard Board of Overseers, and served for many years as treasurer of the Worcester Polytechnic Institute.

Herman R. Mateer, aged 43, former assistant superintendent of Susquehanna Silk Mill, Lewistown, Pa., died June 21.

Henry Johnson, Sr., aged 72, a director of the American Viscose Corp. and of Courtaulds, Ltd., died June 11, at Coventry, England. He was formerly managing director of the latter firm and active in the rayon industry for many years. He came to the United States in 1910 and played a part in establishing the foundation of what is now the American Viscose Corp. It is said that he made the Atlantic crossing 80 times.

Robert Kerr McConnell, aged 42, treasurer of the Hampton Co., Easthampton, Mass. died suddenly, June 13. Three weeks earlier his father Thomas McConnell, president of the company died.

John Haytock Gunning, aged 45, president of the Gunning Silk Co., Easton, Pa., died suddenly on June 11.

Oscar H. Vieths, vice-president of the American Mfg. Co., Brooklyn, N. Y., and for 21 years general manager of the St. Louis Cordage Mills, died in St. Louis June 6.

John C. McLay, general superintendent of the Fulton (N. Y.) mill of the American Woolen Co. since 1929, died at his home June 6. He was with that company since he entered the industry in Lawrence as a young man.

Arthur P. Van Schaick, aged 56, vice-president in charge of sales of American Chain & Cable Co., New York, died suddenly last month.

Edward G. Selden, aged 37, vice-president of Selden Worsted Mills, Methuen, Mass., died June 22.

Edward P. Bernard, aged 39, president of Princely Mills, New York, died late in May.

R. P. Morrell, sales manager of A. & M. Karagheusian, New York, was killed in an airplane accident late in May.

Samuel Mann, aged 73, for 40 years in the hosiery business and head of S. Mann & Co., New York, died June 14.

William Sinkler Manning, aged 87, a director of Pacolet, Saxon, Spartan, Clifton, and many other cotton mills, died in Spartanburg, May 13. It was said of him that he had been on the board of more cotton mills than any other individual in South Carolina.

James O'Neill, aged 51, superintendent of the Uxbridge (Mass.) Woolen Co., died June 1.

Ernest A. Anderson, aged 56, superintendent of the Charlottesville Woolen Mills, died June 14, in Richmond, Va.

Franklin A. Park, aged 70, vice-president and board chairman of the Singer Mfg. Co., Bridgeport, Conn., died at Woods Hole, Mass., on June 17.

T. L. Johnston, aged 75, director of Arcade Cotton Mills, Rock Hill, S. C., and prominent in other textile circles, died June 10.

Samuel Clifton Lee, aged 56, overseer of the spinning room at Arlington Cotton Mills, Inc., Gastonia, N. C., for the last 26 years, died June 18.

Robert F. Fisher, aged 57, superintendent of Crescent Spinning Co. for the last 14 years, died at his home in Belmont, N. C., June 8.

George M. Shutt, aged 74, a former president and for 42 years a member of the New York Cotton Exchange died June 8.

William G. Hardy, aged 42, superintendent of the carding and spinning, Merrimack Mills, Huntsville, Ala., died May 29 after a prolonged illness.

MILL NEWS

Cotton Mill News

Bama Cotton Mills, Enterprise, Ala., are completing one-story addition, representing investment of about $30,000.

Aragon (Ga.) Mills, Inc., have completed a new addition, totaling about 25,000 sq. ft. floor space, and will use about 100 additional looms. Work on machinery installation is nearing completion.

Enterprise Mfg. Co., and the **Sibley Mfg. Co.,** both of Augusta, have merged into the **Sibley-Enterprise Co.** Lanier Branson was president and treasurer of both.

Dalton, Ga. The bedspread industry here is expanding as witness the following: Blue Ridge Bedspread Co. planning larger building; Cabin Crafts, erecting addition; Lawtex Corp. erecting addition; Princely Spread Co., newly established; Novelty Mills, newly established. Dellinger Bedspread Co., Rome, is doubling size of building. Master Tuft Candlewick Corp. is establishing a new unit at Ringgold.

Bibb Mfg. Co., Porterdale, Ga., is planning construction of a $50,000 community center, the gift of James H. Porter, of Macon, Ga., as a memorial to his father, founder of Porterdale, to be known as Porter Memorial Hall.

Monarch Textile Corp., 476 Locust St., Fall River, Mass., has been organized with capital of $52,500 to operate a local cotton mill. Murray Taradash is president, and Mendel A. Taradash, treasurer.

American Thread Co. has closed a plant at Holyoke, Mass., but is increasing facilities at its Willimantic and Westerly plants. It is selling its houses and unoccupied lands.

Dartmouth Mills, New Bedford, Mass., are negotiating for sale to parties who will operate them. Auction sale was set for July 19.

Nield Mfg. Co., New Bedford, Mass., is liquidating, but whether to be sold as a going unit or broken up was being settled.

Armstrong Tire & Rubber Co., Natchez, Miss., plant, will operate in a building constructed by the city of Natchez, with B. L. Knost, contractor, to cost approximately $300,000, including lot. The Armstrong company will install equipment costing $1,000,000. Actual operations are not expected to get under way before Nov. 1.

Pacific Mills, Dover, N. H., have removed about 200 looms from mill at Manchester, N. H., where operations in former Amoskeag plant recently were discontinued, to Cocheco Dept. at Dover.

Edenton (N. C.) Cotton Mills have active work under way on a modernization and improvement program inaugurated a number of months ago. In the spinning division, new long-draft machinery and auxiliary equipment are being installed. Work has been completed in the picking and twisting departments. Other divisions will undergo like modernization.

Queen Anne Mill, Ellenboro, N. C., will continue in operation under 77B proceedings.

Cannon Mills Co., Kannapolis, N. C., is having the Gastonia (N. C.) Roller, Flyer & Spindle Co., repair the steel rolls, flyers and spindles in their No. 4 plant.

Long Shoals Cotton Mill, Lincolnton, N. C., has purchased from Bryant Electric Repair Co., Inc., Gastonia, N. C., motors and control for electrifying the mill. The mill has changed over from rope drive to motor drive.

St. Pauls (N. C.) Cotton Mill Co. is arranging plans for reorganization under 77B.

Shelby (N. C.) Cotton Mills plan an addition to the mill's cloth room and warehouse, to be brick, 50x100 ft. Fiske-Carter Construction Co., Greenville, S. C., has the contract.

Smithfield (N. C.) Mfg. Co. has installed new drawing frames, winders and cards.

Amazon Cotton Mills, Thomasville, N. C., has had the Gaston County Dyeing Machine Co., Stanley, N. C., make installation of the latest type pipe and valve system on package-dyeing machines.

Specialty Elastic Fabrics Co., Richmond, R. I., has been formed with $100,000 capital by Stuart H. Tucker, Stanley H. Smith, Jr., and Bruce M. Doherty of Providence.

Dunean Mills, Greenville, S. C., are installing about 300 new looms, to replace present equipment, in connection with a modernization program at mill. There will be no increase in mill capacity.

Victor - Monaghan Co., Greenville, S. C., reports net profit of $370,879 for fiscal year ended March 31, 1938. For the nine months to March 31, 1937, the net profit was $808,211.

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1 GREATER PRODUCTION • • •
—through *maximum power transmission capacity* even under heavy load.

2 HIGHER QUALITY OF OUTPUT
—through *steady flow of power* under varying condition of load.

3 LOWER REPLACEMENT COSTS
—through *longer service-life.*

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5 ASSURANCE OF SATISFACTION
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The unusual grip, the great strength and flexibility of TANNATE Belting gives you longer service life and lower maintenance costs, and assures maximum production at lower cost per unit.

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Have Your Personal Accident and Health Insurance with

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Mutual Company—No Agents—No Branch Offices

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ACCIDENT POLICY PAYS

Accidental death	Weekly Disability
$5,000—$10,000	$25.00—$50.00

Estimated Annual Cost $15.00

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$25.00 Per Week	$10.00 Per Week
For Confining Sickness	For Non-Confining Sickness

Estimated Annual Cost $18.00

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LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

CRAMERTON MILLS
CRAMERTON, N. C.

TALLAPOOSA MILLS
TALLAPOOSA, GA.

WILLIAM WHITMAN COMPANY, INC.
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

MILL NEWS

Monarch Cotton Mills, Union, S. C., recently purchased 98 individual drive, 10 hp. spinning motors, with all controls, from Bryant Electric Repair Co., Inc., Gastonia, N. C.

Eureka Cotton Mill, Englewood, Tenn. was scheduled to be sold at auction July 1 to satisfy the $45,000 loan from RFC. The plant comprises 11 manufacturing buildings, 36 dwellings and a store.

Dominion Textile Co., Montreal, Canada, reports net profit of $1,459,026 for fiscal year ended March 31, 1938 compared with $1,673,538 the year previous.

Wool Mill News

Phoenix Woolen Co., Stafford Springs, Conn., is being dissolved. The plant has been idle for two years and is now held by Swift River Woolen Co., Stafford, Conn.

Worumbo Mfg. Co., Lisbon Falls, Me., reports net profit of $8,679 after deduction of special charges for year to Nov. 30, 1937. The preferred dividend is being omitted at this time.

Farr Alpaca Co., Holyoke, Mass., has authorized the directors to seek a $2,500,000 loan from RFC, an action that would necessitate a mortgage on common property. Stockholders likewise authorized sale or transfer of parts of the plant not needed in the business. The company plans to push its operations in linings, draperies and in men's wear and dress goods. For 12 months ended April 30 company reported loss of $2,739,569.

Broadway Worsted Co., 225 Broadway, Methuen, Mass., has been organized with capital of 1,000 shares, to operate mill at address noted. H. Burton Powers is president, and John E. Rogerson, treasurer.

Summit Woolen Mills, Inc., 1469 Main St., Worcester, Mass., have been organized with capital of 500 shares, to operate a local mill. Harry Birdoff is president and treasurer.

M. J. Whittall Associates, Ltd., operators of the Whittall carpet mills at Worcester, Mass., have completed arrangements for sale of this property to a group represented by Max S. Warren of Boston, Mass., and Harry S. Warren, of Cleveland, Ohio. The mills were founded in 1880 by Matthew J. Whittall and have operated continuously since that time, producing wilton, chenille and knotted rugs and carpets. About 1,000 persons are employed, and the new purchasers will continue to operate under the old Whittall name. The Warrens are officers and directors of the Warren-Allen Carpet Co., Boston. New company called Whittall Mfg. Co. is concluding arrangements for an RFC loan of $600,000.

Tarklin Woolen Mills, Inc., Burrillville, R. I.—Henry Soubricas, Woonsocket, R. I., has been appointed permanent receiver for this company, pending plans for liquidation.

Oakland (R. I.) **Worsted Co.** of the Wanskuck Co. is installing a section of Crompton & Knowles W3 looms of automatic, magazine type.

Woonsocket (R. I.) **Spinning Co., Inc.,** a reorganization of The Woonsocket Spinning Co., has been formed with $100,000 capital by Serge Lamoureux, Antionette V. Lamourex and Theresa Martineau.

Rayon & Silk Mill News

J. Rossie Velvet Co., Mystic, Conn., has been chartered with capital of $300,000, to take over the former local mill of the Rossie Velvet Co., recently disposed of at public sale. It is headed by John Rossie, Mystic; George W. Pope, Groton, Conn.; and Frank L. McGuire, New London, Conn.

Thread City Silk Co., Windham, Conn., operating at 83 Church St., has organized with the following officers: president, James P. Summers, Willimantic; vice-president, Leonidas Demers, Willimantic; secretary, Horace A. Smith, and treasurer, Eugene J. Cote, Jr.

Union (Miss.) **Silk Mills,** the first silk-throwing plant erected in Mississippi under the state industrial program, was formally opened June 10.

Fulton (N. Y.) **Silk Mills** have completed plans for reorganization involving a $150,000 RFC loan.

Kingsboro Silk Mills, Inc., Gloversville, has completed a new dyeing and finishing department at its Daisy, Tenn., plant.

Sinnott Textile Corp., Rome, N. Y., has sold its plant to A. Paul Fisher, New York broker. John J. Sinnott, president, said the plant would remain in operation until July 1. The new owner has not announced plans for the business.

Samuel J. Aronsohn, Inc., Paterson, N. J., has estab-

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When you buy or specify this Model F-2 Spinning Frame, you not only get one of the latest designs in this type of equipment, but SKF Bearings on drum cylinders as well.

To textile mill superintendents, this means bearings that have proved satisfactory under practically all conditions found in spinning frame operation . . . that minimize maintenance with their inherent ability to compensate easily for those small but costly misalignments caused by warping frames and settling floors. It means dependable, long-lasting bearings that assure cleanliness . . . high production . . . low running costs.

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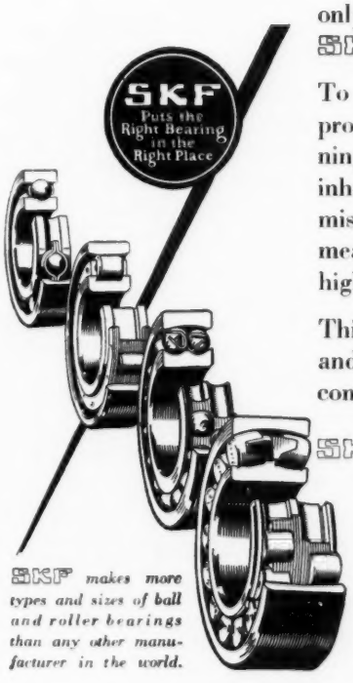

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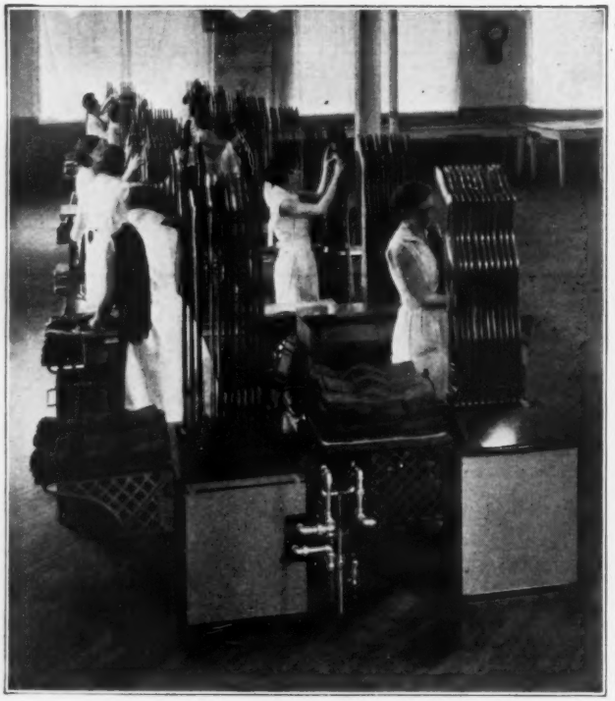
HOSIERY FINISHING



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1. Less investment per dozen
2. A minimum of floor space occupancy
3. Less power and steam consumption per dozen
4. Ideal room and working conditions
5. Less maintenance
6. Ease and comfort to the operator
7. Simplicity and durability of construction

Any one feature alone, of the numerous advantages which the PARAMOUNT DUAL HEAT MACHINE offers, will justify a change to this superior method of hosiery finishing.

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MILL NEWS

lished a new department at local mill for production of jacquards, tinsels and other novelties. C. A. Haus, formerly general manager of Empire Silk Co., Paterson, will be in charge.

Burlington (N. C.) **Mills Corp.** has purchased from Gaston County Dyeing Machine Co., Stanley, N. C., 48 of the latest type dye-beams.

American Enka Corp., Enka, N. C., reports net profit of $2,517,539 for year ended Jan. 2, 1938, which compares with $2,092,061 for year ended Dec. 27, 1936.

Waypoyset Mfg. Co., Central Falls, R. I., is to be soon liquidated, the receiver, Benjamin C. Chace, having court authorization to auction the property now remaining. A corporation headed by Jarvis Cromwell has bought the property.

Fayetteville (Tenn.) **Silk Mill** has been leased by Norman Simpson of Rockwood, Tenn., and been reopened.

Knitting Mill News

Dothan (Ala.) **Silk Hosiery Co., Inc.,** has been organized and has contracted for erection of a $70,000 glass-brick hosiery mill with the Dothan Industrial Corp. Other estimates of cost of plant run to $350,000.

Bryan Hosiery Mill, Quitman, Ga., recently announced plans to begin operations in branch plant July 1. A two-story brick building on Washington St. has been leased and remodeled, and 8 machines installed. H. T. Bryan is president. Main plant is at Chattanooga, Tenn.

Waycross (Ga.) **Mfg. Co.** has opened a plant to manufacture silk hosiery.

Priester Hosiery Mills, Paducah, Ky., were petitioned into bankruptcy last month. B. J. Priester, president, had been adjudged bankrupt in May.

Cambridge (Md.) **Hosiery Mills, Inc.,** recently organized, plan early operation of mill. New company is headed by Charles G. Slacum and Philip Brohawn, both of Cambridge.

Suffolk Knitting Co., Lowell, Mass., is arranging for the early removal of mill to a point in the South. Local mill has discontinued operations pending the change.

New Bedford (Mass.) **Hosiery Co.,** recently organized with capital of $10,000, will operate a local mill in building at 94 Kilburn St. Daniel Ayotte is president; and Alfred Leclair, treasurer.

Ware (Mass.) **Knitters, Inc.,** recently organized with capital of $45,000, will operate a local mill on East Main St. James F. Nields, Jr., is president and treasurer.

Rogers Hosiery Mill, Inc., Denton, N. C.—W. C. Elder, Burlington, N. C., has been appointed temporary receiver. Operations will be continued.

Fayetteville (N. C.) **Knitting Mills, Inc.,** organized recently, have operations under way on production of women's silk hosiery.

A. M. Brown, formerly a partner in the Brown Bros.' Hosiery Mill, Hickory, N. C., is establishing a new hosiery mill at Windy City, N. C., three miles from Hickory. The initial machinery set-up will contain 42 hosiery machines and auxiliary equipment.

Walton Knitting Mills, Highland, N. C., have awarded the contract to the M. G. Crouch & Co., for construction of an addition to boarding department and office, to be 36x50 ft.

Barber Hosiery Mills, Inc., Mount Airy, N. C., recently chartered, has let general contract to Matthew Hines, Mount Airy, for one-story mill on local site, 40x140 ft. Cost over $40,000, with equipment; completion in September.

Mount Holly (N. C.) **Knitting Mills, Inc.,** have awarded contract to L. S. Coster, Cherryville, N. C., for construction of a mill building.

Huffman Full-Fashioned Mill, Inc., Morganton, N. C., recently organized, has rejected bids recently received for one-story mill on Meeting St., and will proceed with erection by day labor, with E. P. Dale, local builder, supervising work. Cost over $40,000, with equipment. R. O. Huffman is president.

Ramseur (N. C.) **Hosiery Mills, Inc.,** recently organized with capital of $250,000, have let general contract to C. M. Guest & Son, Greensboro, N. C., for one-story mill. Cost estimated at $300,000, with equipment. H. V. Biberstein, Charlotte, N. C., is architect. Glass brick construction will be used and plant will be air-conditioned.

Rosman (N. C.) **Knitting Mills,** recently organized, have begun manufacture of men's half hose. Facilities have been installed for about 100 work-

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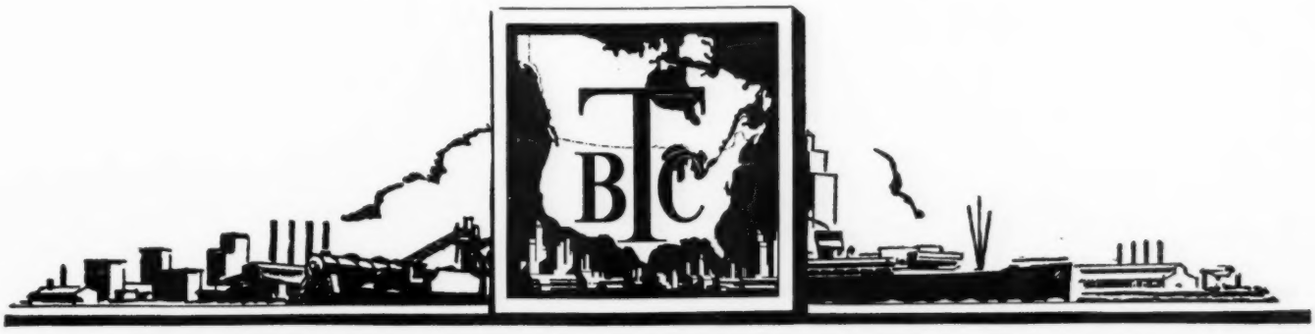

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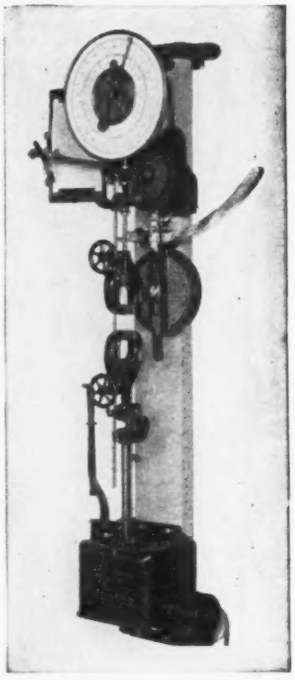

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MILL NEWS

ers. Company is planning early installation of a dyeing division.

Siler City (N. C.) **Hosiery Mills Co.,** recently organized, has completed installation of machinery and equipment, and is employing 125 persons on two-shift basis. Complete plant will comprise about 12 machines. W. W. Sharp, Jr., is secretary and treasurer; D. J. Sickerott, superintendent. One six-section heeling machine manufactured by Robert Reiner, Inc., Weehawken, N. J., has been installed and additional Einsiedel-Reiner machines ordered. Product is men's full-fashioned half hose.

Pilot Full-Fashioned Hosiery Mills, Valdese, N. C., have purchased several single-unit knitting machines from Germany. They will be installed within the next few months.

Sports Made Deluxe Hosiery Co., Fleetwood, Pa., has approved plans for one-story addition to mill, estimated to cost $25,000.

No-Mend Hosiery Co., Inc., Lebanon, Pa., has awarded contract to Edward A. Reider, Reading, Pa., for construction of a one-story brick, steel and concrete addition.

Wilbuck Hosiery Mills, Philadelphia, Pa., have filed notice of organization to operate a mill in the Beury Building. William T. Buck, 6201 North 6th St., is head.

E. Sutro & Son Co., Philadelphia, Pa., has closed its branch mill at York, Pa., permanently, and will follow in August with the closing of its mill at Philadelphia. The company will retire from business.

John A. Beard, Reading, Pa., has been appointed receiver of Sinking Spring (Pa.) Full-Fashioned Knitting Co., Inc. Irwin A. Dunkelberger, president of the company, signed a consent to receivership.

Oak Grove Hosiery Mills, Inc., South Langhorne, Pa.—Full-fashioned knitting machines and other equipment at this mill have been sold at a public auction.

Jac. Feinberg Hosiery Mill, Inc., Rock Hill, S. C., has awarded contract to Grinnell Co., Providence and Charlotte, for installation of a sprinkler system in new one-story mill addition.

Spartan Hosiery Mills, Spartanburg, S. C., in receiver's sale, sold equipment to W. L. Ouzts of Spartanburg.

Dayton, Tenn.—Five machines were installed in Dayton's first full-fashioned hosiery mill by the end of June. Machinery is owned by Walter Schroeder, formerly of Niota and Athens, Tenn., who with William Forstein, of Philadelphia, Pa., will manage the plant.

Miller-Smith Hosiery Mills, Etowah, Tenn., have completed a modernization program including installation of Wildman single-head equipment.

Allen-A Co's. former plant at Kenosha, Wis., has been put in the hands of an operating company through cooperation of townspeople and with completion of financing plan in June. It should soon start up.

Shenandoah (Va.) **Knitting Co.** began operations the latter part of June.

Processing Plant News

Modern Central Dyeing & Finishing Co., Paterson, N. J., has plans for a one-story addition to mill on East 24th St., to be used primarily as a warehouse; cost about $25,000.

Peerless Hosiery Dyeing Co., Pleasantville, N. J.—Mill property and machinery of this company was sold recently at public auction.

Artistic Dyeing Co., 100 Jewel St., Brooklyn, N. Y., has been sold by E. B. Berman, receiver, to Robert L. Gilman of Consolidated Products Co., New York, machinery dealers and liquidators, which in turn resold to Samuel Duberstein, Brooklyn, as attorney for a corporation to be formed. Plans are on foot to start up plant by end of July. Capacity is 1,000 pieces daily.

Allegany Print Works, Inc., New York, N. Y., has been organized with capital of 100 shares, to operate a textile print works in the metropolitan area; represented by Nat C. Helman, 51 Chambers St., New York.

Try-Us Textile Processing Co., Inc., 596 Broadway, New York, N. Y., has leased space in building at 233 Spring St., totaling about 12,000 sq. ft., and will occupy for textile print works.

Standard-Coosa-Thacher Co., Chattanooga, Tenn., has had the Gaston County Dyeing Machine Co., Stanley, N. C., make installation of four package-dyeing machines and auxiliary equipment.